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ABSTRACT OF

The Fitz Patrick Lectures

FOR 1904.

Delivered before the Royal College of Physicians of London on Nov. 8th and 10th, 1904.

By JOSEPH FRANK PAYNE, M.D. Oxon.,
FELLOW AND HARVEIAN LIBRARIAN.

LECTURE I.

Delivered on Nov. 8th.

English Medicine in the Anglo-Norman Period.

Mr. President and Gentlemen,—In my lectures last year I endeavoured to put together the scanty notices we possess respecting the state of medicine and the medical profession under the rule of the Anglo-Saxon kings and especially the characteristics of that English vernacular medical literature which forms so striking an episode in the barren and degenerate medicine of the Dark Ages. We have now to consider what changes English medicine underwent after the rule of the Normans was substituted for that of the Anglo-Saxons. As I have already shown, the old English medicine disappeared, not immediately, but in the end completely. We have now to inquire what came in its place. First, I must emphasise the statement that the Norman Conquest, even if it modified the practice of medicine and the social relations of the medical profession, added nothing to medical science in England. There was no question of a higher culture taking the place of a lower or deep scientific knowledge superseding what was superficial. How far the same conclusions can be drawn with respect to general learning and literature as I have drawn with respect to medicine I am quite incompetent to judge, but I will quote a high authority and not one swayed by national prejudice, the eminent German historian of England, Lappenberg.[1] Speaking of the decay of old English learning and literature after the Conquest, he says: "The collective fruits of the intellectual exertions and experience of the Anglo-Saxon race, contained in a literature richer than that of any of their Germanic brethren, either in expressive prose or in artistically constructed alliterative rhythmical poetry, the wisdom of hoar antiquity, all the learning, every animating warning, and exhilarating example in national tradition, became lost to the people. Such a loss we should deplore, even if it had been supplanted by something nobler and better. But that which the Normans brought with them was certainly far from being an equivalent, even in point of mere learning." This judgment gives a wider extension to the conclusions at which I arrived with respect to medicine. The Norman Conquest did nothing to assist, though it did not arrest, the progress of medicine. The old English medical literature continued to be productive, as I have said, for nearly a century after the Conquest, and during this period we find no trace of any Anglo-Norman medical literature. It is not till the second century after the Conquest that we have a true representative of Anglo-Norman medicine, Gilbertus Anglicus, of whom I shall have to speak—the first English physician to acquire continental reputation. In what respects he differed from the Anglo-Saxon physicians and what was the cause of these differences will be considered later.

Although the Norman Conquest did not assist the progress of medical science in England it introduced considerable changes in the social position of the medical profession. It is clear that the Norman aristocracy, not speaking or understanding English, could make no use of the old Saxon leeches, even had they not despised them too much. They must have required physicians speaking their own language and thus we find the names of several Normans occupying the post of physician to the king or the great nobles. These physicians were exclusively clerical and were often promoted to high offices in the Church. Among the Anglo-Saxons we do not find mention of high ecclesiastics as themselves leeches, or of any leech reaching high ecclesiastical rank, though the leeches must have been, at least in later times, mostly clerical persons. But a change began, as I said before, with Edward the Confessor, who took for his physician a Norman monk, Baldwin, afterwards Abbot of Bury St. Edmunds and physician also to William the Conqueror. Under the Norman kings there are several instances of Norman or French physicians who became the trusted advisers of kings or nobles and were promoted to be bishops and deans. The practice of the English leeches must at this time have been confined to the lower and middle classes who spoke English.

There was another difference between the old English and the Norman physicians which gradually gave the latter a great superiority—namely, that the Normans were educated abroad, as there was no real school of medicine in England, though some sort of teaching of surgery is attributed on very inadequate grounds to the Jewish doctors, and there is some distinct evidence that medicine was studied in the University of Oxford before 1200. All physicians of whom we know anything went to Salerno or later to Montpellier for their medical training. The Normans had several bonds of connexion, direct and indirect, with Salerno, which was one of the chief seats of Norman rule in Italy. The most celebrated production of the school of Salerno, the Regimen Sanitatis, was written for a king of England, generally supposed to mean Robert, eldest son of the Conqueror, who claimed to be, though he never was, king of England, and who spent some time under the care of the doctors of Salerno on his return from Palestine in 1099. The travels of a Norman noble, Rodolphus Mala Corona, led him in 1049 to Salerno where he disputed on medicine with a learned matron, supposed to have been Trotula, writer of a treatise which still survives.

Again, as I showed in my former lectures the one book which connects Anglo-Saxon medicine with the school of Salerno, the treatise *Peri Didaxeon*—founded on a work of Petrocellus—was not written till more than half a century after the Norman Conquest. It was natural therefore for Norman doctors to study at Salerno. But the studies at Salerno itself had materially changed since the days of Petrocellus, that master of the eleventh century, who was the only Salernitan author known to the Anglo-Saxons. The old traditional medicine, derived by obscure channels from the Greeks, was metamorphosed, if we ought not to say superseded, by the medicine of the Arabians, brought nearer to Europe after the Mohammedan conquest of Spain. By the industry of scholars who knew something of Arabic, first of all by the monk Constantine, many of the medical books of the Saracens were translated from Arabic into Latin. These medical books were partly the work of Arabian writers, partly, and herein lay their great significance, Arabic versions of the classical Greek medical writers, Hippocrates, Galen, and others who were lost or forgotten in Western Europe. Moreover, the works of the Arabians themselves were almost entirely based on those of the Greek authors, so that in effect the translation of the Arabic books meant the introduction, or rather the re-introduction, into Europe of the old Greek medicine, in a corrupt form and in barbarous language, but incomparably more copious than the meagre relics of Greeks and Roman medicine with which the Anglo-Saxons and their contemporaries had to content themselves. The revolution thus effected in European medicine was rapid and decisive. The Arabian version of Greek medicine dominated European thought for some four centuries or more, till at the epoch of the Renaissance, by a purer version of Greek medicine and a revival of the best Latin authors, the Arabian school was in its turn dethroned.

Though it is impossible to speak at length about the Arabian Greek medicine which was now invading Europe some of its strong and its weak points may be indicated. The Arabian books and versions of the old Greek books which accompanied them comprised a body of knowledge and experience far beyond what was furnished by the late Latin and Greek authors on whom the Anglo-Saxons and others in the Dark Ages depended. Next it was a great merit of the Arabian physicians that they banished the supernatural from medicine; they were not dealers in charms, and there is nothing in their medical books like the exorcism of diseases or gathering medical herbs with masses and processions. As the Arabian doctrines prevailed, these superstitions disappeared from the practice of medicine. Also the Arabians introduced a knowledge of certain diseases unknown to the ancients as small-pox and measles

[1] Lappenberg: History of England under the Ang'o-Norman Kings, English edition, pp. 142, 143.

and gave a much better account of some old diseases as leprosy. They also greatly extended the European pharmacopœia by the introduction of new drugs and new methods of pharmacy, in addition to distillation and other chemical processes. On the other hand, the Arabian medicine had in some respects an unfavourable influence. It strengthened, though it did not introduce, the habit of slavish submission to authority and dogma in matters of science. The Mohammedans differed from the Greeks in basing their most fundamental beliefs on an infallible written dogma. This reverence for the written word profoundly influenced their scientific as well as their theological creed. The authority of great names like Aristotle and Galen was almost unbounded, and the method of science with the Arabs was like the method of theology, that of reasoning downwards by deduction from the dogmata of the philosophers. If this dialectic method was a bad one in philosophy and other subjects, it was above all harmful in medicine. Moreover, as a set off to their disbelief in charms they were ardent believers in astrology, and this pseudo-science was, with most injurious results, brought into the field of medicine. The popularity of the Arabian books in their Latin version was very great, and it is curious to trace that as time went on these works were much more read than the Latin versions of the Greek masters. The latter were difficult to understand and supplied no convenient text-books for daily use, while the Arabian authors seemed to come nearer to the mediæval mind and were thought to be more practical. Even in the seventeenth century Harvey, deriding the neoterics or moderns, told students to go to the fountain head, to read Aristotle and Avicenna. For better or for worse it was this Arabian modification of Greek medicine which ruled in Europe for centuries, and of this Gilbert was no mean exponent.

LIFE OF GILBERT.

It is not easy for anyone who has not made the attempt to understand the difficulty of identifying and distinguishing men known by their Christian names only in an age when surnames were hardly known in the middle and lower classes. Gilberts were numerous in the twelfth and thirteenth centuries and later, as may be seen in the Dictionary of National Biography. The Gilbert we are in search of was a physician and known by the cognomen of Anglicus, which implies not only that he was an Englishman but that he lived or was known in other countries, since a man does not get the name of Englishman in his own country. The oldest collections of English biography, the works of Bale, Pits, and Leland, tell us something about him; but the statements of these writers have to be received with caution, because they give, generally speaking, no documentary or other authority for what they state. Bale says that Gilbertus Anglicus was an eminent physician who had travelled a good deal and studied in foreign universities and says that he is highly praised by Symphorien Champier, a physician of Lyons in the early part of the sixteenth century, in his work on illustrious medical writers. Champier speaks of him as "Doctor desideratissimus." Pits, who wrote more than half a century later but says that he had gathered his material from old records and documents, gives Gilbert the surname of Legleus (which turns out to be a mistake) and again refers to Symphorien Champier. After speaking of Gilbert's long travels abroad, Pits adds the important statement that he was physician to Hubert Walter, Archbishop of Canterbury, an eminent prelate, soldier, and statesman of the reigns of Richard I. and John, who died in 1205. Pits concludes that he "flourished" about 1210, which would mean that he was born in the latter half of the twelfth century.

These biographical writers are, as I have said, not authorities in the modern sense of the word, since they do not give their authorities. But the broad facts alleged by Pits that Gilbert was physician to Hubert Walter and lived before and after 1200 must be taken as representing some tradition. Pits could not have dreamed of Gilbert's connexion with the Archbishop nor had he any object in making up the story. This tradition may be tested by comparing it with the few biographical details which can be gleaned from Gilbert's own book, the "Compendium Medicinæ." The first definite fact which is established by a multitude of allusions is that Gilbert studied at Salerno; he speaks of many of the "masters" by name, and of the masters generally in such a way as clearly to show personal experience. The time when he studied there is so clearly established by Gilbert's mention of a certain Magister Ricardus whom he speaks of with the warmth of a personal knowledge and with such admiration as seems to imply the relation of a student to a teacher. Now Richard's date is well known because he is spoken of by a physician eminent in his day, Gilles de Corbeil, or Ægidius Corboliensis, physician to the French king Philip Augustus. Now Ægidius studied at Salerno towards the end of the twelfth century, hence Richard must have been living at the same time, and that becomes the most probable date for Gilbert's Salernitan studies. This is confirmed by the argument that the masters spoken of by Ægidius are nearly all also spoken of by Gilbert, and neither of these writers quotes any master who lived later than about 1200. Another curious point which comes out from Gilbert's book is that he travelled in Syria and must have been there (speaking broadly) about the period of the Crusades, for he says that in the city of Tripoli, in Syria, he met with a certain *canonicus* who suffered from rheumatism. Now for a Christian canon to be met with in Tripoli implies that the place must at that time have been under Christian rule, as Tripoli was for many years. From these references we conclude that, speaking broadly, Gilbert was at Salerno and in the East about the end of the twelfth century, in the time of Richard Cœur de Lion and the third Crusade.

We will next inquire what were the proceedings of Hubert Walter during the same period. This prelate as Bishop of Salisbury accompanied the King Richard Cœur de Lion on the Crusade. The King met his fleet at Marseilles, sailed on August 17th, 1190, and coasted along the shores of Italy to Messina in Sicily. This little voyage occupied six weeks and it is expressly stated that the English fleet touched at all the principal ports, under which phrase Salerno must have been included, though I do not find it actually mentioned. Richard with the bulk of his force remained at Messina through the winter, but Hubert Walter, with Baldwin, Archbishop of Canterbury, and Glanville, the grand justiciary, went on in advance and had some sharp fighting before the King arrived next summer. Hubert became the King's principal adviser as well as one of his chief army leaders. Having obtained permission to make a pilgrimage to Jerusalem, Hubert had long interviews with Saladin as the King's representative. In October, 1192, Hubert Walter returned with the English fleet to Sicily, though the King himself, as is well known, had a very different adventure. Soon after Hubert was made Archbishop of Canterbury and died in 1205.

Now it is clear that the travels of the Bishop, who was afterwards Archbishop of Canterbury, coincided very nearly both in place and time with those of Gilbert. The two were at, or passed through, Salerno at about the same time and were also in Palestine within the same period. They may for all we know have met at Salerno and the English bishop may have taken away the young English doctor to be his physician; or they may have met in the East; or, again, as Pits reports, Gilbert may have been made physician to the Archbishop after his return to England. The facts we have related make the old story quite plausible and no undue credulity is required to accept it, since both the persons concerned were travellers and Crusaders at the same time and had many possible points of contact.

There is still a part of Gilbert's life involved in great obscurity—namely, that after the death of his patron in 1205. It appears to me most probable that he then went to France and spent some years, if not all the rest of his life, there. From his quotations of French vernacular words and allusions to French patients it is certain that he lived and practised in France for a certain time. Also his knowledge of Aristotle and of his commentor Averroes is unusual for the period and would hardly have been acquired elsewhere than at Paris. The introduction of Aristotelian learning into Oxford took place too late to apply to Gilbert. There is one curious tradition confirmatory of Gilbert's having been a teacher at Paris, that, according to M. Littré, there was in the fourteenth century a street in the neighbourhood of the schools called Rue Gilbert l'Anglois. Also I have found him spoken of in a later English MS. as Gilbertus Parisiensis. There was also a vague tradition that Gilbert not only studied or taught at Montpellier but was actually chancellor of the university there. But the French scholars seem now to be agreed that Gilbert or Gilibert the chancellor was not the same person as Gilbert the Englishman. It is quite possible that Gilbert was at Montpellier; there is nothing improbable in the supposition; but there is no evidence for it. It was probably at this period of his

life that he wrote his principal work, the "Compendium Medicinæ," since it gives evidence of large and mature experience. The date of Gilbert's death is uncertain. If we suppose that he was between 20 and 30 years old when he studied at Salerno (1180 or 1190) he must have been born about 1160–70 and might have lived to 1230 or thereabouts. But this is only conjectural. A definite limit is placed for the date of Gilbert's work by considering what later writers quote him. We find that he is quoted by name in the "Thesaurus Pauperum" or "Treasury of Poor Men," a celebrated mediæval book of popular medicine, attributed to Petrus Hispanus, afterwards Pope John XXI. (or by some to his father). It is thought to have been written about 1270. A writer of nearly the same time, Theodoric Bishop of Cervia, who wrote a book on Surgery (finished in 1266 according to Haeser), borrows largely from Gilbert but without acknowledging the debt. Allowing some years for the diffusion of Gilbert's books this would put him into the first half of the thirteenth century. It is true that most of the historians of medicine place him later and their arguments are duly considered in the proper place. I will only mention that Freind, our historian of medicine, asserts that Gilbert quotes a book by Roger Bacon and therefore must have lived after him, but really the book referred to has nothing to do with Roger Bacon. Freind also argues that Gilbert quotes from Theodoric, whereas the converse is the case; and his other arguments are not much better.

One other eminent man who has written on Gilbert ought to be mentioned, the great scholar and lexicographer, Emil Littré, who contributed a notice of the English physician to the "Histoire Littéraire de la France," that great encyclopædia of French literary biography, begun and mostly written by the Benedictines. Littré admits that Gilbert was an Englishman but puts him among the French writers because he brings French forms of speech into his Latin and speaks of French patients, implying that he lived in France. The latter fact is, I think, very probable, and if Gilbert was more familiar with French than with English this would also have been true of his patron the Archbishop, of all the important English prelates and statesmen of that time, and of the King himself, whose ignorance of English was notorious. Gilbert must have been a French-speaking Englishman—that is, an Anglo-Norman. Littré justly criticises the accounts given by the old English biographers as having no authority and sets himself to determine Gilbert's date on the strength of one anecdote contained in the "Compendium Medicinæ." This is an interesting story relating how the writer treated a wound of the eye in a young man belonging to a French knightly family settled in Palestine. The criticisms of eminent Saracen and Syrian Christian physicians are also given and the prescriptions which they brought out of their books. The story is exactly what one would have expected to hear of Gilbert and one gives it up with great regret. But, unfortunately, it is only an interpolation in Gilbert's book and refers to an entirely different person, one Zacharias, who wrote a treatise on diseases of the eye and is said to have been a Master of Salerno. The passage is, indeed, marked in the printed edition of Gilbert as "Additio" and cannot have been part of the original work. Since M. Littré's conclusion as to the date when Gilbert lived is founded exclusively on this story we need not further consider it. It must be remarked in passing that the histories of medicine generally give very unsatisfactory and, indeed, inaccurate accounts of Gilbert. Haeser falls into a twofold confusion as to Gilbert, due partly to the mistakes of the old English biographers, and his conclusions are therefore inadmissible.

The best evidence as to Gilbert is to be derived from his own works, and especially from the "Compendium Medicinæ." Other works are attributed to him, such as a Commentary on the Aphorisms of Hippocrates which exists in manuscript in the Bodleian Library, and an antidotarium, which I have not been able to trace, but they are not important. The "Compendium Medicinæ" is a large book, making a thick quarto of 724 pages with double columns of very contracted Latin in the edition of Lyon, 1510; if it were printed in a more extended form it would make a fair sized folio. This book was printed again at Geneva in 1608 with the title "Laurea Anglicana," but, like the works of other English medical writers of the Middle Ages, has never been printed in this country. There are a few manuscripts of it in the English libraries. This book is avowedly a compilation; the prologue says: "*Incipit liber morborum tam universalium quam particularium a magistro Gilberto Anglico editus*, &c. Here beginneth a book of all diseases both general and special, put forth by the Master Gilbert the Englishman, extracted and taken from all authors and from the practices of the masters, which is entitled the Compendium of Medicine." The word "authors" seems to refer to ancient writers and the word "practica" or practice was the customary technical word for the short practical treatises issued by "masters" of the School of Salerno as, for instance, the Practica Petrocelli, Practica Bartholomei, and others. The whole work is a fusion of ancient classical writers, the newly translated works of the Arabian school, and those of the modern Salernitan teachers. Beside these literary sources there are frequent references to the "Magistri," Magistri Salernitani, Magistri moderni, &c., as if to contemporaries and disputations in the school are also alluded to. The Mulieres Salernitanæ, or female physicians, are once spoken of.

The Greek classical medical writers are often quoted, but evidently from Latin translations; Hippocrates is mentioned 107 times; Galen, 59; Aristotle, 78; Alexander, 14 times; the others less frequently. Among the Arabian writers the most important is Avicenna whose name occurs 88 times; besides Isaac the Jew, who was an Arabic writer, Johannitius, or Honein, a Syrian Christian, who wrote in Arabic, Rasis, Averroes, and others. All the works quoted had been translated into Latin. The most frequently quoted Latin writer is Constantine whose name comes in 50 times; the other Latins mentioned are nearly all well-known teachers of Salerno, such as Nicolaus (Praepositus), author of the celebrated "Antidotarium," Ricardus (already referred to), Maurus, Platearius, and others. It is important to observe that all these writers belong to the twelfth century or earlier. No one is quoted who wrote (broadly speaking) after 1200. Some of the names mentioned are quite unknown and not found elsewhere.

It is very difficult in a short compass to given an account of Gilbert's work. It is divided into seven books: the first on fevers; the second on affections of the head, including diseases of the brain, mania, and so forth; the third on affections of the eyes, ears, and face, including some skin diseases; the fourth on diseases of the "spiritual" or respiratory organs; the fifth on diseases of the stomach and intestines; the sixth those of the liver, spleen, and kidneys. The seventh book, headed "On Diseases of the Generative Organs," includes some of the most important chapters, such as those on leprosy and on small-pox and measles. The classification of fevers is very elaborate. We have the usual intermittents, quotidian, tertian, and quartan, each doubled with a "bastard" of the same species, and with other variations; the semitertian or *hemitriteus*, which might be major or minor; *synochus* and *synocha*, the distinction of which puzzled mankind for centuries, *causon*, and others. These were explained, as were diseases in general, by some fault in one of the four humours—viz., blood, yellow bile or choler, black bile or melancholy, and phlegm. Any of these might be excessive in amount, or altered in quality, or in the wrong place; it might again undergo putrefaction, either within or without the vessels, and the difference was momentous. Gilbert's account of this subject is chiefly taken from the Arabians and does not differ essentially from that of some other writers, but is made more tedious by the extreme prolixity, subtlety, and fondness for abstract discussions. He has some marvellous calculations as to the day on which relapse in intermittent fevers was to be expected. The treatment was based chiefly on this speculative humoral pathology but Gilbert sometimes shows glimpses of better things. He quotes more than once the saying of Hippocrates that the physician must be *minister naturæ*, the servant of nature, and follow her indications by endeavouring to expel the matter of disease. This he contrasts with the teaching of "Maurus and the Salernitans" and implies that by not considering this point those authors fell into error.

In the treatment of all diseases Gilbert attached great importance to diet. For drugs he employed, beside simples, a number of the old compound medicines called "antidotes," which were popular for centuries and have left their traces in our modern pharmacopœias. Gilbert mentions altogether more than 200 of these, giving their composition. This is a larger number than is included in the Antidotarium of Nicolaus, where there are only about 150. The type of these medicines was the Theriaca of Andromachus, the most celebrated remedy of antiquity and valued

up to modern times; Philonium and Mithridate were of the same class; but the antidotes were not exclusively remedies against poisons, they were good for nearly all diseases. Though little used in the early period of the School of Salerno antidotes became very popular in the tenth and eleventh centuries. Besides formulæ derived from Galen, the later Greek physicians, and the Arabians, the doctors of Salerno invented many of their own. The origin of some of the antidotes, which bore marvellous and legendary names, is almost past conjecture. There is a draught, *Potio Sancti Pauli*, so called because the formula was composed by St. Paul; *a Plaster of St. Peter and St. Paul*, the authorship of which is, however, not explicitly assigned to those apostles; and a *Potion of King David*. The *Ointment of Alabaster*, which the Romans brought from Jerusalem at the time of our Lord's crucifixion, was one which Mary and Martha, the sisters of Lazarus, used every day of their lives. *Sal Sacerdotale* was used by the priests at the time of Elias the prophet. *Esdra magna* was composed by the prophet Ezra when he was in exile at Babylon. It contained more than 100 ingredients and was good for "all bodily ailments." *Agrippæ* was an ointment used by King Agrippa. *Justinum* was a medicine for the stone, composed and used by the Emperor Justinus. *Usina* was a medicine approved for the same disease by many wise men at Babylon or Constantinople. Some were named after the eminent persons, pope, king, or duke, for whom they were first prescribed. It should be observed that Gilbert mentions a few *Empirica*—i.e., superstitious remedies and charms. He says that he had not a high opinion of them himself but he inserted some recommended by old writers to make his book complete. He is very sparing of these prescriptions as compared with the Anglo-Saxons or with the later Latin and Greek physicians. In one instance he recommends a medicine prepared by distillation. Gilbert's general method of treatment, he says, is that of the modern masters. In one case he speaks of an excellent method of cure recommended by Hippocrates which, however, he does not give but follows the modern practice lest he should be thought singular.

Gilbert's observations on leprosy are very important and formed the basis of much of what was written on this subject by mediæval authors. Theodoric Bishop of Cervia, Bernard of Gordon, and our own John of Gaddesden borrow largely from Gilbert. His description of the external signs of leprosy is evidently from first-hand observation. He describes very accurately the anæsthesia and other symptoms accompanying what we now call leprous neuritis and acutely distinguishes this affection from paralysis. The commonest causes of leprosy were inheritance, corruption of food, or some kind of contagion. Several methods of contagion were recognised, among others by breath or by "aspectus"—that is, seeing a leper (or perhaps being seen by him). This terrible superstition (not peculiar to Gilbert) explains much of the cruelty of the mediæval regulations for the segregation of lepers. A large part of this account was taken from Arabian writers but among the mediæval physicians we cannot find anyone who gives so much solid information about leprosy, though we might easily find a more concise and lucid expositor.

Gilbert's account of small-pox and measles must be regarded as, on the whole, the most important mediæval contribution to that subject. A collection of the writings of the Arabist writers on these diseases was made in the eighteenth century by Gruner but he unfortunately omitted the observations of Gilbert, from whom many later writers borrowed. Gilbert's account is partly drawn from Constantine and from the Arabian authors, who first described those diseases unknown to the ancients; but he gives in addition some original observations of his own. He shows that the mediævals made a clear distinction between variolæ and morbilli which it is sometimes thought they confounded, the chief difference being that the morbillus does not rise above the skin while the variola projects. Gilbert also makes the first definite assertion about the contagion of small-pox, which he says may be caught by sitting near a patient, through the fumes dispersed from him, if the disease be of the infectious kind. I have found no mention of this in Avicenna or Rasis, so far as their works are accessible to us, nor in any of the Arabist writers collected by Gruner, except one of the sixteenth century, who states, as his own personal opinion, not as the accepted view, that small-pox is sometimes caught from others. Speaking subject to correction, I must then conclude that Gilbert was the first author to draw attention to contagion in small-pox. We know that as late as the seventeenth century the contagiosity of this disease was not generally accepted and was denied even by such a man as Sydenham. Gilbert lays lays great weight upon the preliminary symptoms preceding the eruption in both small-pox and measles. Gilbert was also the first writer to suggest a method of treatment in small-pox which has lately achieved great celebrity—namely, that by red wrappings and red objects or (what is the same thing) by red light. His brief mention of this practice, partly based upon popular tradition, was quoted or repeated by most mediæval writers on small-pox, till finally John of Gaddesden affirms that he actually carried it out in the case of a royal prince whom he brought successfully through an attack of small-pox, without any scars, by wrapping him in scarlet cloth and surrounding him with red hangings. No anecdote about mediæval medicine has been more often quoted than this and Gaddesden has been held up to the ridicule of centuries for his folly, if not denounced as a charlatan. But now it appears that he must be reckoned as a precursor of Finsen, and Gilbert, from whom he got the idea, must also have his share of the credit.

The last two chapters of Gilbert's book are devoted to the hygiene of travellers by land and sea. In his rules of health for sea voyagers there are two very remarkable points—one is, he recommends that if drinking water cannot be otherwise purified it should be distilled through the alembic. In this way, he says, nobles can get sea-water turned into fresh. Also he recommends passengers to take on board with them dried grapes, leeks, cucumbers, apples, and pears, showing some recognition of the principles of antiscorbutic diet.

If we try to sum up the strong and weak points of Gilbert's work we must admit that he was a man of very great learning who had read perhaps almost too much, but also of wide experience and some practical skill. He shows considerable originality in his observations which are by no means commonplace; but he seems to have lacked sufficient courage to strike out an independent line of treatment, following in this the beaten track. In his aims Gilbert was an eclectic; he sought to unite the old teaching of the School of Salerno with the newer doctrines of the Arabian and the revived Greek medicine. His Compendium is, indeed, the earliest attempt at a synthesis of these systems and must have played an important part at a critical time. The book had apparently a wide diffusion through Europe and was sufficiently valued after the invention of printing to pass through two editions. It does not appear to have been especially valued or more generally read in this country than on the continent, which, perhaps, may be explained by the circumstances of the author's life.

An Address
ON
SOCIAL EVOLUTION AND PUBLIC HEALTH.

Delivered at the Inaugural Meeting of the York Medical Society on Oct. 21st, 1904.

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GENTLEMEN,—I highly appreciate the honour of being asked to give an inaugural address to this society and of following the many distinguished men who have occupied this position. It is a special privilege to be allowed to speak, in however casual a fashion, on a sociological subject in a city which has formed the subject of one of the most noteworthy sociological investigations of the last decade. No apology is needed for discussing public health questions before a medical society, for the improvements in the public health heretofore secured are owing in a large measure to the self denying efforts of medical men and to their increasing knowledge of the causes of disease. They have assuredly ground for congratulation in the results which have been obtained. The death-rate in urban districts, while it remains, as always, higher than in rural districts, is now lower than it was 50 years ago in rural districts and the corrected general death-rate in England

and Wales has declined from 22·5 per 1000 in 1854 to 16·2 in 1902. The wage-earning classes form the large majority of the population and it is certain that they have had their share in the improvement which these figures indicate. If we look into detailed circumstances instead of the figures which integrate them we arrive at the same results, whether we consider amount of wages, cheapness of food, or improvement in housing. The figures which I have quoted show, in fact, that the public health policy of the last 50 years has not only neutralised the increase in the death-rate which through increasing urbanisation would otherwise have occurred but has secured an additional saving of 28 per cent.

This statement involves disagreement with those who believe in widespread physical degeneration among the labouring classes. I am indeed glad that it does. Were it not possible to believe, for instance, that our present increased expectation of life is in the main associated with improved national health—that the large saving in consumptive lives has had less effect towards lowering the standard of average strength than towards raising it by preventing others from becoming tuberculous—the desire for extended measures, the zest of one's daily work, in preventive medicine would be seriously diminished. But although I hold these relatively optimistic views and have not ceased to urge them in detail on various occasions it remains true that a large proportion of our population are still insufficiently fed and badly housed and suffer from conditions which must cause ill health and shorten life.

It has seemed to me that it may not be unprofitable for an hour to desist from the direct search for remedies and to consider merely the natural laws by which the present position has been reached and the direction which these laws suggest as proper for our future course. All forms of life on the earth have been evolved through pain and struggle. "The whole creation groaneth and travaileth in pain together until now." The struggle for existence had been realised long before Darwin's time. Malthus in his "Essay on Population," first published in 1798, had stated it very clearly so far as man is concerned; and Darwin frankly says that "the struggle for existence amongst all organic beings throughout the world, which inevitably follows from the high geometrical ratio of their increase, ... is the doctrine of Malthus applied to the whole animal and vegetable kingdoms."[1] It is now a matter of accepted doctrine, supported by universal experience, that struggle of some kind has accompanied the successful evolution of every form of life, and there is sufficient ground for believing further that without such struggle strength cannot be maintained and degeneration must set in.

The struggle for existence is a struggle between the living organism and its environment. Those best fitted to the environment tend to survive, others to perish. The quantity which determines the survival of an organism is not its absolute fitness but the ratio of its fitness to the strain imposed on it by its environment. This ratio can obviously be changed by varying either of its factors and both processes have occurred in natural as in social evolution. In plant life the ratio is affected mainly by alterations in the fitness of the organism, but instances are not wanting in which the organism likewise modifies its environment. Such instances are mostly seen in coöperation between various organisms. Lichens are a mutual provident society of fungi and algæ. The bacteria of the nodules of leguminous plants pay for their maintenance by manufacturing nitrates from the soil and air and supplying it to the plants. The beech can thrive only when a mantle of the fungus mycorrhiza develops over its roots, the fungus being fed by the beech, and in return supplying it with certain salts, and thus obviating unnecessary expenditure of force on added rootlets. Between plants and animals there are many instances of useful partnership. Certain seaweeds are attached to the shells of marine crabs, the crab thus simulating the appearance of a rock, while the seaweed secures multiplied opportunities of receiving dissolved carbonic acid as food. The ants tenanting the bull's horn acacia tree obtain food and shelter from it, while they defend it from enemies. Even the beetles inhabiting manure heaps help each other in rolling up pellets of dung and burying these as larval food with eggs imbedded in them. Still better known are the coöperative efforts to control their environment which are shown among themselves by such animals as the bee, the ant, the beaver, &c.

[1] Origin of Species, p. 3.

In the evolution of man the intelligent power to alter environment plays a supremely important part because he appears to be the only animal which is capable of continuously improving on the experience of his forebears. Although certain orangs pelt passers-by with nuts and the chimpanzee cracks his nuts with a stone man is the only animal who has employed tools of increasing complexity for his wants. He alone clothes himself and he alone cooks his food. He has learnt also to press into his service the forces of nature and the organic modifications of plants and animals, as in cultivated cereals and domesticated animals. The environment with which any class of animals has to deal includes each other; and the primitive method adopted by the strong in modifying this environment consisted largely of the destruction of the weak and the direct appropriation of their persons and property. The instances which I have given show, however, that this was not the sole method. In the various forms of coöperation which we see in animals there is a constant succession of acts which in man would entitle him to credit for honesty, fidelity, justice, mercy, sympathy, and benevolence. In some cases—such, for instance, as parental devotion—it cannot be questioned that the act is done from innate pleasure in the particular form of altruism which it displays, and in such measure as animals thus act they "follow the law but know not the doctrine." There can be little doubt that the mitigation of the tendency to mutual destruction originated in a sense of the net advantage to be derived by the individual from mutual help. Upon this sense is based the foundation of society; and the social evolution with which we are acquainted historically has consisted substantially in its development.

This development has been assisted and promoted largely through causes which it is outside the scope of this address to discuss. The increase of reason and experience tended at first to intensify the struggle for existence and to make human development ethically worse as it became more rational. By whatever means it has arisen an altruistic conscience has come to mitigate this process. The destruction of man by individual man is now condemned by a universal sentiment. The public conscience no longer allows, at least in its ethical theory, one set of men to support and to enrich themselves by procuring the degradation and suffering of others. As Huxley puts it, "it repudiates the gladiatorial theory of existence" and is directed "not so much to the survival of the fittest as to the fitting of as many as possible to survive." Such views are based on the application of rules of conduct, for the operation of which there is still a wide sphere open. There is but scanty recognition of social as distinguished from family duty; the moral example set by the corporate community is not yet recognised as the potent factor which it is in shaping the moral life of its constituent individuals. The ends to which accepted ethical rules have still to be applied might, in fact, be multiplied indefinitely, but the recital would still leave untouched the facts that improved ethical standards have played and are playing an important part in the encouragement of the altruistic sense, and that this sense encourages the adoption of measures of public health, though the effect of such measures may be really self-regarding.

The adoption of altruistic principles acts, in fact, rather by creating a disposition to welcome measures on behalf of the public health than by furnishing a practical basis for them. It is on economical grounds that such measures are mostly supported, and when account is taken of the continuing struggle in which every community is engaged and of the fact that there is a limit to the resources of every community and a consequent duty to husband and to apply them to the best advantage, it is not to be regretted that the economic aspect of the question should have such prominence. To those who feel special interest in the public health it is indeed satisfactory to find it closely interwoven with the economic well-being of the community. There are times when the ebb and flow of the public mind, and even, indeed, of the individual faith of some of us, seem to throw some doubt on this association. Personally I regard it as a fundamental fact in the evolution of society and its importance to public health is so great and so certain that it may be well shortly to study the considerations on which it is based.

These considerations may be best studied by taking first the alternative view. It has been suggested that influences tending to maintain and to improve the health of strong

and weak indiscriminately help to preserve weaklings who would otherwise drop out; that by this process the average strength of the race is reduced and increasing unfitness is being laid up for later generations. It is not to any consideration of the expense involved in public health and allied measures that such views are usually to be attributed. Those who hold them do not, for instance, object to the sedulous care with which lunatics and idiots are maintained and to the high expense involved so long as they are not permitted to multiply their kind. Their sole objection is to the artificial favouring of the reproduction of those who suffer from some defect, whose reproduction must, in their view, tend to degrade the strength of the race.

Among those who hold this view Professor Karl Pearson is perhaps best entitled to be heard. He says: "We have two groups in the community—one parasitic to the other. The latter thinks of to-morrow and is childless, the former takes no thought and multiplies. It can only end as the case so often ends—the parasite kills its host and so ends the tale for both alike."[2] And elsewhere: "The birth-rate of the better type of working men has been falling off more rapidly than the birth-rate of the nation as a whole." And we have Mr. Balfour arguing at the recent meeting of the British Association (September, 1904) that inasmuch as when men win their way from lower to middle rank their progeny diminishes owing to later marriages, &c., "it seems that as the State contrives education so as to allow this rising from a lower to an upper class, so much does it do something to diminish the actual quality of the breed. ..... There is, or seems to be, no escape from the melancholy conclusion that everything done towards opening up careers to those of the lower class does something towards the deterioration of that race." In Professor Pearson's argument it is assumed that the improvident chiefly and the provident seldom procreate. Mr. Balfour's premiss in the actual expression which he gives to it justifies an inference not to the quality but to the quantity of the breed. It is, however, probably correct to imagine that he is assuming that among the working classes there is a larger proportion of "deteriorated" persons than among the middle and upper classes.

Both these assumptions are based chiefly on insufficient data. Were complete statistics available they would probably not be confirmed. The birth-rate is not governed under present conditions chiefly by postponement of marriage, nor in all probability can it be said with accuracy that the birth-rate of the better type of workman has relatively decreased, unless we regard the widespread use of what are euphemistically called Neo-Malthusian methods of curtailing the birth-rate as an indication of a "better type." Mr. Balfour's statement seems to involve the assumption that the line of fission between the more and the less efficient members of the community lies horizontally between the various classes. There is no reason to think that this is so. It is more probably oblique if not vertical. Both of these writers seem to ignore the fact that infantile mortality is commonly twice as high among those whose high birth-rate they deplore as it is among those of other grades of society who have fewer children. There is no sufficient ground for thinking that in these respects we are worse than formerly and even in the present meagre examination of the facts we shall, I think, find reason for believing that it is possible on the adoption of quite practicable means to secure improvement. Mr. Balfour seems also to assume that some kind of inferiority, the form of which he did not specify, is necessarily transmitted. There is, we shall find, strong reason to believe that innate inferiority is the only form of inferiority which is permanently transmissible and I am satisfied that no sufficient evidence has been produced to show that there is innate inferiority in a large proportion of the wage-earning classes. In some respects, indeed, such as stature, there is reason to believe that there is not and medical men in busy practice would, I think, unhesitatingly say that, given equally good education and physical conditions, there would be no fear of "deterioration" were the wage-earning to take the place of other classes. One cannot help thinking that instead of taking a conspective view of the classes of whom they are speaking these two distinguished men have been applying a microscope to relatively small and abnormal groups of society and generalising from these.

The real foundation for a sound view of public health policy seems to me to lie in wider considerations than are involved in the passages which I have quoted. It is an economical fact that the average fit man contributes more to the aggregate resources of the community than in his own person he dissipates. Many men of less than average fitness also contribute a surplus. At what degree of unfitness equilibrium occurs it is impossible to say, but it may be taken as certain that the average man in the present distribution of fitness is a valuable economical asset and that probably only a very small minority are incapable of becoming so under proper conditions. Now in practice it is impossible to prescribe measures for the advantage of the public health which shall operate only in favour of the fit. Disease can only occur when a person who is not immune is attacked by the efficient cause of the disease while he is in a susceptible condition. The chronically unfit are those people who are both not immune and are normally in a susceptible condition; the fit are those who, while occasionally non-immune to some disease or even to most diseases, are not normally in a susceptible condition. When, however, the efficient cause of disease arrives it attacks both classes in the same manner, and any circumstance which lowers the resistance of a fit man increases the chance of an efficient cause of disease catching him in a susceptible condition. Each successful attack is liable to leave the victim weakened and less capable of resistance to further attack. The omission of measures to improve the resistance to disease—e.g., general sanitation, abatement of overcrowding, and so on—and of measures to prevent the access of infection and other causes of disease tends therefore not only to eliminate the chronically unfit but also to increase the number of transfers from the class of fit or occasionally unfit to that of chronically unfit and therefore the chance of death of an attacked individual. Obviously the very strongest evidence of benefit would be required before it could be regarded as economically advantageous to jeopardise the lives of individuals in the fit class or to increase the chance of their transfer to the chronically unfit. In infectious diseases this argument for the care of the public health is reinforced by the circumstance that the actual sickness of one person causes in itself greatly increased danger to his neighbours, whether fit or otherwise. To illustrate the effect of the erroneous notion that influences for the improvement of public health may do more harm than good, let it be remembered that one of the most potent is sunshine. I think even the hardiest supporter of this view would hesitate before he recommended measures for excluding the sun from dwellings in order to secure the elimination of the weaker individuals of the community. It must finally be seen that the effect of public health measures can never give the chronically unfit the same chance of survival as the normally fit and even if the survival of such of the unfit as they may help to survive should reduce the rate of improvement of the whole community it cannot turn it into a deterioration.

It must accordingly be accepted that the evolution of society, stimulated and supported both by economical and ethical doctrine, has led human communities to strive for the maintenance and improvement of the public health. Up to this point I have been concerned with the fundamental truths of the subject of this address and it is with much greater diffidence that I pass to consider the question of the means for improving personal and public health. It will be convenient for the present purpose to refer again to the first principles which are concerned. The measure of the fitness of an individual for survival is, we have seen, the ratio of his absolute fitness to the strain imposed by his environment. This measure is applicable to communities, and the public health of a community is a function of the same ratio. Public health policy is therefore directed to increasing the fitness of the individuals who compose the community and to the removal of any excessive strain on them due to their environment. It is important at the outset to consider how far the fitness of an individual is capable of being modified—that is to say, how far it is determined for him by his pre-natal circumstances. It would occupy too much space in this address to examine in detail the grounds of such conclusions as we can draw on this point. Briefly, they may be summarised by the statement that in the main innate qualities of old standing in the race are largely permanent during the life of the individual, irrespective of environment, and are transmitted more or less permanently; that certain conditions due to post-natal environment of the future parents are probably capable of being transmitted by a parent to one, or possibly two, generations, but under an

[2] University College Gazette, 1904, p. 406.

altered environment are subject to modification in a more remote posterity; and that innate qualities to a slight extent may be modified and post-natal qualities acquired through the influence of environment. Of these considerations the most important for practical purposes are the last two. Professor D. J. Cunningham points out that in the accepted view of anthropologists there is a certain average physical standard which is the inheritance of each race; and though, doubtless, this view does not exclude the possible modification of such standards in the course of ages it affirms that, however far certain sections of the people may deviate from the average standard, for instance, through the degeneration caused by poverty with its attendant ignorance, squalor, and bad feeding, the deviation is not capable of being transmitted from generation to generation. "To restore, therefore," he says, "the classes in which this inferiority exists to the mean standard of national physique all that is required is to improve the condition of living, and in one or two generations the ground that has been lost will be recovered."[3]

The first factor of the ratio on which public health depends is the fitness of the individual to resist the strain of his environment. This fitness, so far as it is capable of being modified otherwise than by modifications of environment, consists in the capacity to utilise the environment to the fullest advantage. Such capacity must be primarily dependent upon education and it demands a wider connotation of the word than any which it has been found possible up to now to put into practice, though not wider than that which it is hoped may be attained in the near future. It is now accepted in the practice of education that physical training must be included. In addition both to physical training and to academic learning it is of the highest importance that children should have not merely a theoretical knowledge of the facts which bear on fitness but also a practical training in their application. It is, for instance, a mere commonplace complaint that few people have a knowledge of food values and of the way in which they are modified, directly or indirectly, by judicious cooking and, it may be added, by proper mastication. When the enormous economical interests at stake are considered it is strange that no more energetic effort has been made to remove the ground for this complaint. It has been shown to an extent to which I shall have presently to allude that a large fraction of the community habitually have not enough to eat. An exact estimate is impracticable of the extent to which assimilable food fails after being eaten to be assimilated. I believe that the percentage is very much higher than seems generally to be imagined and am inclined to think that its amount when added to the amount which is wasted by uneconomical choice of foods is, among the classes in question, fully as great as the deficiency in their food-supply. Food that, while capable of being digested and absorbed, is swallowed without undergoing those processes is not only a source of dyspepsia and indirect impairment of nutrition but is as much a direct economic loss as if it were not eaten at all. To render food more assimilable is as much an addition to food-supply as the provision of additional food would be. I believe that if all the food which is at the disposal of the classes below the "poverty line" of Mr. Charles Booth and Mr. B. S. Rowntree were so chosen and cooked and masticated as to yield the full food value of the money spent on it, a very large proportion of the families would be lifted much higher in the scale. That the competence thus to choose food and use with skill the cheap and simple means of savoury cooking which are necessary does not come by nature is a fact familiar even in our own lives. To teach it effectively so that the pupil acquired not merely the necessary knowledge and skill but also the habit of applying it would doubtless on any national scale be a relatively costly matter, at least for some years. It would involve, for instance, national training of girls for some time after they had left school. But the cost on any conceivable estimate would be only small in comparison with the thrift of food which it would introduce into the national habits, the economic value of the consequent saving, and the improvement in national fitness. It must also be remembered that once such practice had been introduced into our customs, the cost of teaching it to a body of children who saw it being carried out in their own homes would be greatly reduced. I suggest, therefore, that a first means towards increasing the fitness of the population without altering their environment or increasing their expenses is to make a sustained effort to teach the children the habit as well as the theory and practice of choosing food wisely and cooking it well.

I have laid stress on the need for teaching not merely a theory, nor even a practice, but a habit, because I believe that the chief deficiency in our present system of education is its failure to teach habits. Sometimes I think that those to whom a farthing is a rare coin do not realise effectively the demands on character which are made by a life in which every farthing counts and none can be spent without the need for an immediate equivalent physical return. Such a life is in greater or less measure the life of a large proportion of our population. They live it under conditions in which failure to observe the limits of their income may bring them below the poverty line and offer them the choice between independent semi-starvation and avowed destitution. In what is happily a considerable number of cases they live this life and observe its limitations, not austerely or ascetically, but in happiness and content. Many, like myself, must in visiting slum neighbourhoods have not infrequently entered a house which is an oasis of cleanliness and sweetness in a desert of dirt and neglect. The structural condition of the house is no better than that of the neighbouring houses but the character of the inmates has impressed itself upon the house. Such cases do not form the majority of those who are near the poverty line, but their frequent occurrence is evidence that in practice the necessary sacrifices can be made and made cheerfully. The constant self-denial which they entail cannot conceivably be improvised. It must result from the possession of habits both of conduct and of mind. Life without such habits in conditions which hourly call for them is not only miserable for the individual but also mischievous to the community. And yet how small a part of our national educational system is devoted to the training of character, which is, I take it, the resultant of habits of mind and conduct. Though I know that I am treading on dangerous ground I venture to point out the risks involved in the fact that while Anglicans, Dissenters, and Roman Catholics are disputing as to what the vast majority of laymen regard as non-essential they are rendering it almost inevitable that day-school education shall be exclusively secular. I hope it may not be too late to express the hope that some way may be found out of this *impasse*. In the search for means to enable men in any class to utilise their environment to the best advantage the formation of character is of the most essential importance; and the provision in our present system of education of means to that end is a line of action of which the beneficent possibilities have as yet hardly been touched.

The third principal means by which fitness may be increased, apart from environment, is improved medical attendance. If I do not dwell on this on the present occasion I am sure my reticence will not be misunderstood. It would "come too near the praising of" not myself but my profession if I spoke of the advent of the scientific spirit into medicine and surgery, of the devoted efforts of those who are now practising those arts, of the improved education of students and the constant advance of successful results. These things are, moreover, even better known to you than to me; and I pass from their present further consideration as a mark, not of depreciation, but of a respect which forbids me from discussing them more amply before an audience to many of whom my remarks would be almost personal.

The second factor of the ratio which determines public health depends on environment. The means of directly modifying environment with the object of improving public health are classed broadly as public health measures; and it is with some sense of relief, which I hope will be mutual, that I have decided not to occupy your time with the present discussion of any such methods. The present direction of public health legislation and administration has been reached by inquiry and study without stint; its results have been such as afford ground for congratulation and encouragement to those who have helped to determine it; and, with certain reservations which cannot be conveniently discussed in the time now reasonably at my disposal, it may fairly be said that progress along the present line is the best thing that can happen.

The factors, however, which can contribute to the indirect modification of environment cannot be disposed of so readily. From them I propose to select two of the most important

[3] Inter-Departmental Committee on Physical Degeneration, vol. ii., p. 97.

and to endeavour to continue in their case the application of the elementary principles which I have already suggested in this paper.

I will take first very shortly the conditions of industrial employment. The original relation of master and servant was one of unmitigated free trade. In quite modern times there was still a practically unrestricted liberty to the employer to exact from the artisan more than he could give without detriment to his health and to give him less than was sufficient to nourish his family and him adequately. Children were employed at an age and to an extent quite inconsistent with their well-being and development. The conditions under which labour was thus exploited were most insanitary and the workers had to accept them with the accompanying hardships because they had no alternative. In 1825 the abolition of the Combination Laws removed one of the disadvantages under which workmen had laboured. Workmen were then for the first time legally empowered without using violence, force, or intimidation to combine to secure freedom of action and increased wages, and the tendency of legislation has been to enlarge their opportunities in this respect. The iniquity of child labour was swept away. The last 50 years have seen a steady extension of State intervention in the regulation of factories, workshops, mines, &c., and I believe it is the opinion of those competent to judge that this has worked not only to the advantage of the health of the workers but also to the economic gain of the industries concerned. At the present time, with freedom of combination, reduced hours of labour, and improved sanitary conditions, we are left with the two parties of capital and labour arrayed separately under conditions far more nearly approaching equality than they have ever been. It is important to recollect that collectively these parties have an interest beyond the arrangement of their mutual shares in the produce of their industries. The purpose of their activities is, after all, to obtain from their environment the means of livelihood, and, whatever may be their several interests in the division of such means as they may obtain, each party has a mutual interest of no less importance in obtaining the means which they are to divide. The modern history of the relations of capital and labour in this country seems to show that first one side and then the other has sometimes lost sight of their mutual interest in each other's well-being. We may usefully remember that at any time the means of existence of a community outside a very short term of years lie wholly in its future earnings. National energy at any given time is a limited quantity, and so much as is spent on internal struggle between those who should be coöperating reduces the quantity available for the struggle with nature and with competing earners. We have seen that from the outset struggle has accompanied every step in the evolution of life towards an improved condition and has seemed to be essential to progress and even to the avoidance of degradation. Even in a millennial Utopia united humanity would have to continue its unending struggle with Nature and would exist only by its success in turning her forces to its own service. In such conditions, indeed, the internal struggle would have ceased. A mutual coöperation in this labour and not competition for the division of its fruits would absorb the entire energies of nations, towns, factories, masters, and men, and those who know to what extent the energies of these several entities are now dissipated in the task of scrambling for the fruits of labour, which are in no way increased by the inordinate effort of the scramble, can imagine how the task of supporting humanity would be lightened. They will know equally how bitter and deadly in our premillennial circumstances is the industrial warfare on the successful prosecution of which a nation's subsistence depends and they will realise the paramount need for finding means by which internal disputes may be conciliated and subordinated to the task of earning unceasingly the means of the nation's subsistence and health. In this task it is to a dispassionate observer an elementary and inevitable observation that the well-being of every unit in the community is a matter of importance to every other unit—that the work, which is the master of all, demands men who are contented and fit and not half-starved and anxious, and requires from them during their hours of labour a keen and whole-hearted energy. In the conflict with environment we must attach a high value to the development of the sense of the mutual economic importance of masters and men and of their common as contrasted with their several interests, and as a final element in the examination of our present subject we may with advantage consider the provision which in the natural evolution of society should be made for those who for the time being fail in the industrial struggle.

The problems of poverty and destitution have the utmost importance to public health. The health of a community usually varies with the material prosperity of its members. In an examination which I made of the census returns of 1901 [4] for London I found, for instance, that the order of health of the several districts, as measured by their general death-rates and their phthisical death-rates, was approximately the same as that of the proportion of houses in each district employing domestic servants. This connexion between improvement in public health and in prosperity would be expected, since prosperity furnishes direct means of improving sanitary conditions. In existing conditions, however, it is probable that the connexion is far more directly due to the fact that improved health permits the means of prosperity to be earned and that contrariwise failure in health brings a large proportion of the population below the "poverty line." Most poverty is a symptom of disease and not a disease in itself. And if we include in our definition of disease moral and mental disorders, intemperance, vice, sloth, and shiftlessness the amount of poverty needing to be considered under any other heading is relatively small. The treatment of poverty has historically shown the same confusion between symptom and disease as appeared in earlier times in medicine and illustrates as clearly as medical history the mischief and the hindrance to real progress which are caused by adopting an empirical treatment of symptoms instead of a scientific treatment of disease. The Act of 1601, continuing the struggle against vagrancy, declared wisely that no one able to work should receive relief without the exaction of labour. The settlement laws stopped the migration of workers from place to place and in later reigns led to relief being given to multitudes of able-bodied poor without the exaction of labour. To provide a partial remedy for the intolerable consequences of this inconsiderate benevolence authority was given in 1725 to parishes to provide workhouses in which a residential labour test was enforced as a condition of relief. In 1782, however, an Act was passed which prohibited guardians from insisting on the able-bodied entering the workhouse and threw on the guardians "the duty of finding work near their own homes for such applicants as profess to be able and willing to work, but are unable to find employment, and of making up any supposed deficiency out of the poor rates."

By the operation of this Act the reduction of pauperism which had been secured was converted into a rapid and alarming increase; an unofficial condition of misery was created and an impetus given to idleness and vice which reached its consummation in the removal, by the Act of 1815, of the time-limit for ordering relief and converted charitable help into an ordinary grant in aid of insufficient wages which naturally tended to make the standard of wages still lower. When a commission of inquiry was appointed in 1832 it was found that in many places subsistence from poor-rates was more easily obtained than by labour (at Eastbourne the poor-rate was 13*s.* in the pound); that under such influences prudence and thrift were discarded; that sobriety and temperance were left without encouragement; that as the habit of pauperism increased the standard of subsistence of the labourers was lowered; and that the whole nation was becoming demoralised and impoverished. The Act of 1834 by reviving the test of admission to the workhouse for able-bodied paupers at once rendered wages absolutely separate from charity, raised the status of the wage-earning classes, diminished the number of improvident marriages, and caused a rapid decline of pauperism. At the present time there is evidence, both within and without the operations of the Poor-law, of some disposition to reaction. I may instance the fact that inadequate outdoor relief is being given in an increasing proportion of cases and is to some extent now officially encouraged (see the recent circular to boards of guardians), though it is urged in the circular of the Local Government Board that when this is given in suitable cases it should be adequate in amount.

Let us for a moment apply to the question the fundamental principles of evolution. The community in the husbandry of its strictly limited energy cannot afford to allow available energy to be wasted. Wisdom, however, and the rules of right conduct equally direct that it should not adopt towards its poor—that is, towards that class which dissipates more than it possesses and earns—the attitude of extermination

[4] Brit. Med. Jour., March 2nd, 1902.

proper to a presocial age. It has to turn them to account with the least net expense of communal resources. To this end it must both see that they are adequately nourished and convert the resultant energy into work which will, as far as possible, replace that which is being dissipated in their support. But if the community cannot afford to lose the work which the poor man produces while communally supported it can still less afford to lose his permanent capacity for doing work. If that capacity is suffering through physical, mental, or moral disease the community is bound alike in wisdom and in mercy to administer relief in such forms as will tend to remove the disease and not merely palliate the poverty which is its symptom. Experience in all forms of evolution has taught us that exercise is essential in order to avoid the degradation of a function and conscious effort in order to secure the healthy maintenance of those functions, like the capacity for work and right living, which involve mental and moral qualities. The stimulus to such effort can only be withdrawn from any class of the population at the cost of their degradation; or those who enter injured may go out permanent cripples. The State and its several classes are large entities and many smaller entities exist within them. Churches, clubs, circles of friends, families, are organs of the whole community and are subject to the same laws as control all other life. It must be the care of the State that these organs, essential as they are to the well-being of the community and the individual, shall be encouraged to exercise all their functions, on the constant use of which depend their strength and growth.

Such in general terms is the result of applying to poverty the principles which we know must regulate any successful evolution; in other words, such are the laws which can only be broken at the expense of communal well-being. To presume that the laws of nature will be held in abeyance in order to favour some simple or seemingly cheap solution of an important question is a favourite form of self-deception. When it produces perpetual motion machines, the ignorant by a process of trial, tedious, costly, and too often ruinous, the scientific man by the application of the law of conservation, demonstrate the fallacy in a relatively short time. The error of sociological devices conceived in defiance of natural laws may take longer to demonstrate, but the ultimate result is certain and the longer the delay the higher the cost of the unsuccessful experiment. With this inevitable truth firmly in our minds we may consider some of the consequences which flow directly from the application of the principles of social evolution to the problem of poverty.

We have seen that it is indispensable that the help which the State gives must be sufficient. This principle in practice stigmatises outdoor relief as for the most part unsound and sentimental; and to avoid any possible doubt as to my deep sympathy with those for whom the present suggested prescriptions are ultimately intended I may say that I understand a measure to be sentimental when it serves to soothe the sentiment of the giver rather than to satisfy the needs of the receiver. With the reservation of certain exceptional cases outdoor relief, on whatever practicable scale, is an excellent example of a sentimental remedy for poverty, because by just eking out insufficient earnings it removes the stimulus to seek improvement and leads the receivers to continue in their inefficient condition and remain without capacity for self-help. Such a course is unsound, both because the community has a supreme interest in preserving or creating the capacity which is thus abandoned and because each such case is liable to be in practice a source of moral and even physical infection to the sound portion of the community. It is sentimental because, so far from affording a remedy, it really protracts the disease. It keeps the patient in his insanitary and overcrowded dwellings and encourages him to endure prolonged misery through the insufficiency of his total resources when a satisfactory social arrangement would provide that in the absence of such treatment he would be receiving support in exchange for a fair day's work or else be on the road to improved conditions through his own efforts. It has been said with high probability that "more persons have died of starvation through the receipt of inadequate outdoor relief than have died from the refusal to enter the house."[5] At the present time certain forms of outdoor relief are being canvassed which, if they do not immediately cause protraction of the receiver's poverty, must certainly weaken his capacity for self-help and thus at once increase his tendency to get into worse conditions and reduce his ability to get out of them. I may instance the proposals to give free breakfasts to school children who appear to be underfed and old age pensions to those who have not contributed to them. Evidence of hunger in children is on every sound principle conclusive ground for giving them immediate relief, but it is no ground whatever for neglecting to recover the cost of such relief from their parents. It is not until it is shown that the parents are unable to earn what they need or to economise in needless expenses that any question of waiving the charge ought to arise, and if the father is able to work but unable to find employment it is only in exceptional circumstances that he can safely be relieved of the duty of paying the charge in money or labour. A more painful case is that of the aged who are no longer capable of working. There must inevitably be cases where no system will save them from being compelled to accept help without work, which is the final mark of failure and destitution. Such relief is proper on the same economical grounds as justify the maintenance of hospitals for incurables. It must, however, be seen that those who at the end of their working life had resources which with any practicable old age pension would be enough to keep them in comfort would be likely during their working life to have been capable of making the contribution which would provide and justify the pension. The amount of misery relieved by a gratuitous pension scheme which could not under proper encouragement have been prevented by self-help would therefore be relatively small; and the stake of the community in the cultivation of self-help is too large, the amount of happiness which is dependent on the avoidance of a disposition to be pauperised is too universal, for such schemes to satisfy any test of sound ethics or economy. It was the decadence of the Roman empire which produced the disposition to give unearned *panem et circenses*.

In passing from this point I do not forget that the national charity fund, no less than the wages fund, is strictly limited and the necessity of husbanding it is obvious. It is not on this aspect of this question that I base my main objection to these doles but on the degeneration which they would inevitably introduce into the character of those who received them. There is no need to emphasise the importance in itself of thrift in our precious charity fund. One means of such thrift is, however, indicated by the principles which we have been considering. I have referred to the community's interest in the lesser communities which constitute it and to the importance of encouraging them in all the beneficent activities of which they may be capable. This doctrine involves the postponement of State charitable aid in all cases except those of emergency until the capacities of the constituent communal organs have successively been exhausted. The poor man's claim on his family, on his neighbours and friends, on his club, on those voluntary associations which engage in orderly and systematic benevolence, whether associated with a church or not, should be allowed to be pressed to its fullest extent before State assistance can be given for any purpose except that of emergency. The process, in particular, of coördinating State interference in poverty with the work of orderly and voluntary benevolent societies should have a direct economical advantage in the avoidance of overlapping and in extending a knowledge of those principles of benevolent action which are sound and not, in the sense in which I have already used the word, merely sentimental. Here, again, the economical course is to be commended not merely or so much because it is economical as because it serves to keep family and compassionate ties in the activity which is necessary to their preservation.

It is, then, the teaching of evolutionary history that charity to be effective from the several points of view of the community and the receiver must be so shaped as to stimulate the self-help on which the individual must rely to raise himself above the poverty line. Its function is to assist him to shape his own environment rather than to shape it for him. The particulars in which this is possible for those living on the poverty line are such that they would more logically have been discussed with the other means of increasing individual fitness. I have intentionally deferred their consideration because the remedy for poverty is too often thought to consist in charitable doles and I was anxious before discussing the means which are at disposal for the worker to shape his own environment for himself to emphasise the fact that in all but exceptional cases they are

[5] W. Chance, M.A.: Our Treatment of the Poor, p. 150.

all on which he can rely. One important means of improvement which from time to time may be obtained, the increase of wages, has already been considered in the discussion of the industrial question. It is, as we have seen, not wholly under the control of either of the parties to the bargain; but the only hope of obtaining its most favourable solution is the fuller recognition of the elementary principles of social evolution which we have discussed. The main effort which is open to the worker near the poverty line, as, indeed, to many who are above it, is the wise curtailment of needless expenses. Mr. T. P. Whittaker, M.P., has pointed out that the average drink bill of the working classes is about 6*s.* 1½*d.* per week per family, the bill for other classes being 15*s.* 3*d.* When the first figure is connected with those living habitually near the poverty line it is difficult to exaggerate its significance. There are possibly cases in which some part of this consumption of alcohol may have a beneficial effect upon the consumer. Every medical man will agree with me in the belief that the cases in which anything like this consumption of alcoholic drink can be of benefit to the consumers are relatively so few that they may be left out of account; and we are left with the fact that almost 25 per cent. of the income of those to whom every farthing is a matter of so much health and physical efficiency is spent upon what is nearly always a useless and a mischievous drug. It is impossible in the present state of opinion—in the belief of many it is questionable whether it will ever be desirable—to withdraw altogether the possibilities of the persistence of this national curse. It can be contended with some degree of plausibility that the effort which is salutary in the shaping of environment is no less wholesome in the right adaptation of the individual thereto, but these considerations are entirely beside the mark when the direct consequence of unnecessary expenditure is to leave the individual wholly or partially a charge upon the State and to prevent him from fulfilling his parental duty. It is not the function of the State to visit the sins of the fathers upon the children, and the distress which is caused to an innocent child through its parents' intemperance must be remedied as promptly and as certainly as if it arose from any other cause. But it is neither just to the community nor merciful to the man whom it condemns to linger in the squalor from which he is unable to free himself to permit this denial of his natural duty. I think that in cases of this kind it ought to be practicable as a matter of administration to subject offenders to penalties which would at least reduce, if not actually remove, their possibilities of temptation. In the special case for which I am suggesting this course we should not be arbitrarily interfering with the liberty of the subject but granting a conditional extension of time for the payment of a just and natural debt. The result in those cases that were successful would be far more than a temporary relief of rates in respect of the provision for hungry children. When these children were themselves of wage-earning age the habit which had been benevolently forced upon their parents would not disappear and a notable improvement would have been made in the direction in which of all others it is most needed.

It is undoubtedly true that in some cases the drink habit is acquired through dyspeptic trouble following on insufficient nourishment. This condition is not permanently palliated by the remedy; and though I am indeed far from thinking harshly of those who have trials to which many of us are never exposed I will add that this digestive disturbance is not a sufficient excuse. But at the risk of repeating what I have already discussed at some length I will venture to point out that if it be true, as I believe, that the drink habit is partially connected with insufficient nutrition, the argument for not merely teaching and practising but forming the inseparable habit of the wise choice of foods and of skilful and savoury cooking should appeal to us with the full force of our convictions as to the mischief wrought by drink. If the loss and injury due to absence of this domestic knowledge and habit showed itself in as dramatic and sensational a form as by accident attaches to alcoholism the attitude to it of education would have been very different; and I commend with all possible earnestness to those who are considering this subject the thought of what would be the difference in the effective resources of those who live near the poverty line if at once the money now spent on drink were habitually available for food and other comforts invested to the largely greater advantage which is possible.

I do not apologise to you for having at the end of my address occupied so much time with a matter which seems only indirectly to come within my title because I am satisfied that essentially the problem of poverty stands in the most intimate relation to the public health. In some respects we are better off than we were. In 1871 there were in England and Wales 46·5 paupers per 1000 of the population and in 1901 only 24·6. The number of officially destitute in proportion to the total population has greatly declined. It may be doubted whether the total poverty of the country has declined commensurately. There can be no doubt, however, that there has been great improvement. That the evils of the present time are great is equally certain and it is satisfactory that the public conscience has become more sensitive and that there is a more general desire than in the past to do our duty to those who have not succeeded in life's struggle. We must not, however, apply the benevolent nostrums of untrained sentiment. I would be sorry to deny any man the satisfaction of soothing his own feelings by the relief of distress, but there is work enough and to spare on lines which would be of permanent advantage to the community without wasting benevolent energy in what must inevitably lead to failure and degradation. The true lines of dealing with poverty were stated very happily by Diderot[6] when he says: "It would be far more important to work at the prevention of misery than to multiply places of refuge for the miserable." The sound treatment of poverty is assuredly preventive, and on an audience such as this I need not press the depth of cruelty which can lie in substituting a palliative for a scientific treatment.

The outcome, indeed, of the reflections which I have ventured to submit to you is to show that help which does not necessitate effort on the part both of the giver and the receiver is relatively fruitless and that we need to use better and more completely all the available resources, material, intellectual, and moral. To act on the supposition that the employment of any one of these sources of energy will be an adequate solution of public health problems can only lead to an empirical and insufficient treatment which will keep the patient constantly in the medical man's hands. It is by realising this ultimate truth that we shall most quickly arrive at an enduring solution and that the work of our hands shall be established. The health of the nation is the crude supply of energy upon which the whole of its activities, its happiness, and its achievements must in the last resort depend. It represents, in a word, its potential wealth. We have seen how this wealth has been increased by the attention which in the last 50 years has been given to public health, and we shall need all the encouragement to be derived from these results when we turn to contemplate the work that yet remains to be done.

> "Does the road wind up hill all the way?
> Yes, to the very end.
> Will the day's journey take the whole long day?
> From morn to night, my friend."

A Lecture
ON
PARALYSIS AS IT OCCURS IN CHILDREN.

Delivered at the National Hospital for the Paralysed and Epileptic, Queen-square,

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GENTLEMEN,—The subject upon which I purpose to speak this afternoon is that of paralysis as it occurs in children. It may, perhaps, seem necessary to offer an excuse for dealing with such a subject, because it may be asked, what is the difference between paralysis occurring in children and that which occurs in adults? I think there are some points of distinction between paralysis occurring in young and undeveloped subjects as contrasted with that type of disease as it occurs in adults, which justify one in directing particular attention to paralysis as it takes place in children.

[6] Morley: Diderot and the Encyclopædists.

In the first place one must remember that the parts of the nervous system that suffer in children are affected in young and undeveloped subjects. That is to say that the structures affected are those which are still growing, whose growth in consequence of the processes of disease is very much interfered with. Therefore there are induced in children interferences with development and consequent deformities, and that alone would justify one in devoting particular attention to paralysis as it occurs in children; that is to say, you are dealing in children with young and undeveloped and growing structures, and disease in them is certain to lead to some deformities or peculiarities which do not occur in adults. Another thing which will at once occur to one in thinking of paralysis as it occurs in children, as contrasted with that in adults, is that in adults a great many of the paralytic diseases are the result not of any diseased condition of the nervous system proper but of the blood-vessels on which the nutrition of the nerve structures depends. So that many of the paralytic diseases in adults, such as the ordinary form of hemiplegia, are the result of diseased conditions of vessels, of atheroma leading to thrombosis on the one hand and perhaps rupture of a vessel and consequent hæmorrhage on the other hand. And of course senile atheroma is a condition which one does not meet with in children. So, if we come across hemiplegia in a child, unless there is heart disease present likely to give rise to embolism, we have to consider that the condition of hemiplegia is almost certainly not due to primary disease of blood-vessels such as occurs in adults. In speaking of disease of the blood-vessels one, of course, excludes definitely the endarteritis of syphilis, because endarteritis occurs in adults as a result of acquired syphilis; and one must also remember that endarteritis occurs also in children as a result of congenital syphilis. And we shall see, when we come to talk of the cases which I shall show you to-day, that endarteritis arising from congenital syphilis is sometimes—perhaps oftener than one thinks—a cause of hemiplegia as it occurs in the young child.

There is another point which one ought to remember as a justification for considering paralysis in young subjects as differing from paralysis in adults, and that is, that many children are actually born with some form of mental or physical disability, and that this form of mental or physical disability is the result of disease—perhaps occurring during intra-uterine life—or of disease in the mother. In some of these cases there is interference with the growth of structures as a result of some unknown morbid condition in the parent, or we may have some form of paralysis the result of a brain condition in the child due, it may be, to disease or detachment of placenta during intra-uterine life. And that brings before us a special form of disease, which includes the various kinds of birth palsy which we meet with in children, that is to say paralysis which is present at birth as contrasted with that which develops in early extra-uterine life. So in this form of "birth palsy" we are dealing with a special kind of disease, one which is peculiar to young children as we see it and does not arise in the adult at all.

In another class of cases—and it is a very large one and embraces several diseases, examples of which we shall see to-day—there seems to be an inherited tendency in certain parts of the nervous system to early death. This has been spoken of by Sir William Gowers as abiotrophy—that is, simply a tendency to a shortening of life in certain structures, these structures seeming to be endowed with short endurance and to run through their course in a comparatively short time, so that the structures which ought in the ordinary course of events to outlive three score years and ten do really die in the first few years of life. In a disease like Friedreich's ataxy we have an example of that condition. In that there is apparently an inherited condition of the nervous system which leads to early decay in certain parts. Therefore in this condition we have a state of things which has no analogue, so to speak, in the adult. In other diseases, such as Marie's cerebellar ataxy, we have the same kind of condition. In that we have in other parts of the nervous system an inherited tendency to early decay and death and the necessary evolution, so to speak, of a disease of a particular kind. In certain forms, also, of brain disease the same tendency is present. There are certain conditions of what is called diplegia, which is really a form of paralysis in which the two sides of the body suffer; and in some of them it seems to be fairly well established that the clinical condition depends upon a state of degeneration of certain cells in the brain which, as I have said, seem to inherit a tendency to early death. Those cells after a short period of apparently normal health undergo gradual degeneration and death, and there is consequently induced paralysis of the peripheral structures which they subserve.

There is also a large class of cases which we know as cases of muscular dystrophy, a name which embraces cases of pseudo-hypertrophic paralysis, and idiopathic muscular atrophy, and those cases are also of a similar nature. They seem to depend for their essential features upon a tendency to early decay and death which is present in the muscular structures themselves. These four points which I have referred to seem to me, at all events, to justify a special consideration of paralysis as it occurs in children and young people generally. It does not at all invalidate this contention to say that certain cases of varieties of paralysis which are most common in children are met with in the adult. For example, ordinary anterior poliomyelitis, which is spoken of characteristically as infantile paralysis, does, of course, occasionally occur in adults. I have known it occur as late as 60 years of age. I have seen it in young girls and boys and I have seen it in every decade from the first to the seventh, though probably 90 per cent. of the cases occur in children under ten years of age.

The conditions of paralysis to which I shall refer to-day are three or four in number. In the first place there is infantile paralysis, which I have just alluded to, and I shall show you some cases of that disease. Then I shall refer to infantile hemiplegia—that is to say, the cerebral form of it as it occurs in children characteristically. I shall show you a case of that. I shall refer to diplegia, but unfortunately there is not a case of that nature in the hospital just now. I shall show you a case of pontine tumour, a very characteristic case and unfortunately a rather common condition in young children, and also two cases of Friedreich's ataxy and two cases of pseudo-hypertrophic paralysis occurring in two brothers.

As regards infantile paralysis, before showing two or three cases which illustrate the disease, I should like to say that infantile paralysis, although it is characteristically a disease of early life, may occur at any age as I have said. By far the most frequent age at which it is met with is in the first ten years of life and it nearly always affects extremely healthy children who otherwise are simply pictures of rude health. Curiously enough, it occurs chiefly in the hot weather, that is to say from May to September, and by far the greatest number of cases are met with in July and August. With regard to the mode of onset it may be varied. It is important to keep this fact in mind, because I know of no disease which is so frequently missed in the early stage. The child may be feverish and it is thought not to be seriously ill. If there is pain present it is thought to be rheumatism. It is only after a few days, when the temperature has subsided and the child begins to try to move about again, that the disease is recognised as infantile paralysis. So in a child who has ill-defined feverish symptoms, sometimes severe and sometimes trivial, associated with pain, sometimes unassociated with pain, one ought to be on the look-out for the possible occurrence of infantile paralysis. In other cases the onset is of a severe character. The child becomes comatose, very often has head retraction, and there is produced a condition which closely simulates basic meningitis. In those cases also it may be found that the real nature of the illness has been infantile paralysis and that the condition which is left behind is a paralysis affecting perhaps one limb and perhaps more than one. Another mode in which the onset occurs is where a child apparently perfectly normal and well at night goes to bed, does not have a restless night or any discomfort, but next morning is found to have paralysis of one limb. I say paralysis of one limb because where the constitutional disturbance is slight I think the paralysis is much mor frequently in one limb or in one part of a limb than when the condition at the onset is more severe. When you get a more sthenic form of illness at the commencement you are much more likely to get a severe degree of paralysis.

There is still another mode of onset and that is very interesting and curious. A child has had a fall, in the course of the afternoon perhaps, and has hurt his knee. Apparently the pain has been severe at the time, but after a time he is able to resume his play and nothing special is noticed about him. He goes to bed and next morning

is found to have paralysis of the limb which he hurt when he fell. That is a curious form of onset but I am sure of its accuracy, because I have seen it over and over again. The history is that the limb which subsequently becomes paralysed is the one which has been hurt, it has been apparently some peripheral injury which has not been sufficiently severe to interfere with the child moving about, but still the disease comes on and the limb which is paralysed is that which was hurt the night before. One cannot help feeling that there is a direct connexion between the initial injury and the onset of the paralysis. That also bears upon another form in which the onset may occur and that is after very marked over-exertion. Sometimes children are treated very injudiciously by their parents in reference to the distance they are made to walk; they are dragged along many miles, much further than is at all suitable for them, and I have known several instances in which that has been done and in which the children have become paralysed afterwards in the lower limbs, so that the functional over-action of the lower limbs is a condition which may quite well usher in the onset of paralysis, and the same is true in the upper limbs. I had a case in the out-patient room here not very long ago, which some of you may have seen, of a man who had gone through a severe over-exertion of the upper limbs after a heavy day's work. He had bottled a very large number of bottles of wine. He had become very hot, tired, and exhausted and next morning he had paralysis of both arms. I saw him some months afterwards and it was found that he had very definite wasting of the muscles, especially those about the shoulder. The upper arm muscles were less affected than those of the forearm. There were no sensory disturbance and nothing to show that the condition was anything but a very severe affection of the anterior horn cells of the spinal cord. It was indeed a case of infantile paralysis in the adult, associated at its onset with very marked over-exertion in the limbs, which afterwards became paralysed. So these various modes of onset have to be remembered in reference to infantile paralysis.

I do not think any except ordinary symptomatic treatment is effective at the time of the onset. As regards the after-treatment of the condition that depends on the paralysis. The limbs are wasted and the parts ought to be stimulated by massage and galvanism. I do not think there is much benefit in using faradism in these cases because the muscles which are affected are those which do not respond to faradism. In treating by means of massage and galvanism the intention is to stimulate the muscles and to keep up their nutrition until the time arrives when the nerve structures are capable of again conveying impulses.

Now a word with regard to the prognosis in infantile paralysis. One may always be pretty sure that cases of paralysis coming before one early—i.e., in the first few days after the onset—will improve. One often sees cases in which there is total paralysis of limbs at the onset, perhaps of both legs, and one may be sure that the paralysis will become much more restricted as time goes on. Sometimes one sees cases in which there is complete paralysis in the arm in which after a time the paralysis becomes much more restricted, perhaps to one muscle. So that if one sees cases in the early stage the prognosis is quite good as regards partial recovery, but with regard to complete recovery it is extremely rare that a case of infantile paralysis recovers completely. I can only recall one, in which there was slight paralysis of the arm, which did make complete recovery.

The first case of this disease which I shall show you is that of a little boy, aged 18 months. The history was that he was perfectly well until there was a sudden onset of weakness in the left arm in October. The child is well in every other way. Apparently the legs were not affected at all. He could walk in a normal way but there was almost complete flaccid paralysis of this arm. The muscles chiefly affected are those about the shoulder. He is able to move his fingers. Here is another case of a similar condition, also in a very young child, in whom the legs are the parts affected. In this case you have an illustration of the fact that what we have in a child is an interference with young and growing structures, rapidly developing, and consequently paralysis of any one, or any part of a, limb interferes very much with the development of that part of the limb and results in contractures and deformities. In this case there is infantile paralysis of the anterior tibial group of muscles; we have over-action of the gastrocnemius and consequently talipes is produced, for which, if the limbs had any use, tenotomy would have to be performed. But as the limbs are paralysed there is no object in performing tenotomy, because there is no chance of getting the child on her feet again. But this case illustrates very well the deformity which takes place as a result of interference with the function of certain muscles. In her case there is an illustration of the mode of onset which is the result of traumatism, and it is rather an unusual form, because she was dropped by her nurse when she was six months old. For a time she was unconscious and was paralysed at first in all four limbs. Now, apparently, the paralysis has become much more restricted, so that there is fairly good use of the upper limbs, but the lower limbs remain completely paralysed. It is, as I say, a very unusual thing to get infantile paralysis coming on after such an accident but it is not unusual, as I have said, to find infantile paralysis coming on in a limb which has been injured through a spontaneous fall on the part of the child. However, these two cases illustrate clinically two different types of the disease which we know as infantile paralysis.

There is another condition of paralysis—namely, infantile hemiplegia—which is peculiar to children. It is peculiar to children because, as I have said, the condition of diseased vessels which you find in adults is not present in infants. In ordinary infantile hemiplegia we have a disease which occurs in the first few years of life and which is usually ushered in by either a convulsion or a series of convulsions which affect the side which afterwards becomes paralysed. And then as a result of the disease we have the leg paralysed, the arm paralysed, and the face usually also paralysed to some extent. And in the condition which is established we have not uncommonly the frequent occurrence of fits of the same Jacksonian variety as those which usher in the hemiplegia. These conditions probably depend on some inflammation in the grey matter of the brain, an inflammation, or at all events a change similar and probably analogous to that which occurs in the spinal cord causing the form of infantile paralysis which we have just seen. The reason I say that it is probably analogous is because there is on record an instance of a family in which three members were simultaneously affected with paralysis. In two of the members of the family the disease took the form of spinal anterior poliomyelitis and in the other member of the family the disease took the form of cerebral inflammation, as I think it is, of the grey matter, leading to infantile hemiplegia. Unfortunately, I have no case to show you which will illustrate that actual condition of characteristic infantile hemiplegia which is ushered in with a fit or a series of convulsions and which is characterised by the presence of hemiplegia and very often also by the occurrence of fits afterwards. But I have here a case which illustrates a kind of hemiplegia which is very similar to the form of hemiplegia which you get in the adult, and probably from a similar cause. I have spoken of the specific endarteritis which is met with in adults as a result of acquired syphilis. I have also said that in children occasionally one sees a similar form of paralysis the result of endarteritis, in congenital specific disease. And in this particular case we have a condition of left hemiplegia which came on a few weeks ago, apparently without loss of consciousness, but resulting in a partial interference with speech. It was not ushered in by any convulsion or series of convulsions, as hemiplegia usually is in a child, and one had to look further for some explanation. The explanation was found on examining the eyes. In the right eye it was found she had very marked disseminated choroidal changes of a kind characteristic of late specific taint. So in that we had an explanation of the condition. We have a child who is the subject of congenital specific disease who almost certainly had thrombosis occurring in a vessel whose wall is thickened as a result of endarteritis. So this case is not an instance of the characteristic form of infantile hemiplegia but it illustrates a condition of hemiplegia which does occur occasionally in children as well as in adults. Here, although the limb is rather flaccid and paralysed, there is not the same helplessness that there is in the child with anterior horn change; and in the leg, although we have a condition which is to some extent one of flaccidity, there is not wasting to anything like the degree that one finds when the anterior horn cells are diseased.

The next case is that of a girl who was apparently quite healthy until three years ago. At that time her mother noticed that she walked in a somewhat peculiar way, for she leant forward instead of walking straight and upright as she used to do. She was intelligent and remains fairly

intelligent, but as regards her power of walking this became considerably impaired. You will notice the condition of the limbs now. One must remember that although there is a certain degree of deformity the child has not been able to walk for some time, so that the deformity which results is the usual deformity which you find as a result of disuse. It is nothing like so extreme as was the deformity of infantile paralysis which you saw, but it is associated with much vaso-motor disturbance. Gradually she went off her feet, so that now she cannot walk at all. She retains her intelligence and has undoubtedly become gradually worse. It illustrates the condition of certain cells and their inherited tendency to early death. She was apparently healthy until three or four years ago and then, for no apparent reason, began to walk badly, her locomotion became spastic, and then she began to use her hands awkwardly. Now she has a condition in which the use of the hands is awkward and in which the legs are completely useless for purposes of locomotion. In many cases this gradual interference with the pyramidal system is also associated with interference with the mental functions. In this case the mental condition is not very much interfered with, but it is possible that that might also become degenerated as time goes on. There is one form of this disease known as the amaurotic family idiocy of Sachs, who was one of the first to describe it, in which there are apparently gradual deterioration and death of all the cerebral cells. It is associated also with blindness, which depends on a degeneration of the retina. And it occurs, curiously enough, nearly always in Jews. It is a curious racial affection which comes on usually in the first 18 months of life.

The next case is one which illustrates very well the symptomatology of a class of cases which is very important, pontine tumour occurring in children. In this particular patient the first symptom was that seven months ago the patient began to write at school off the line and when spoken to complained of being unable to see properly. He evidently had diplopia. About six months ago a squint was first noticed and the mother thought the left eye was at fault. Three and a half months ago the walking became affected so that he began to throw his left leg out. Since then his gait has been more affected until two months ago when he began to stagger and if he is not careful he falls to one side. Three months ago his left hand was affected and he complained of being unable to use it properly. Two months ago there were indistinctness of speech and weakness on the left side of the face, and the angle of the mouth was affected, so that he has not been able to swallow properly. The condition present now is that he has a very marked degree of left hemiplegia. He has almost complete ophthalmoplegia; there is very little actual movement at all of the eyes except downwards and upwards. But even in those movements there are large nystagmoid jerkings which show the marked weakness of the muscles. In the left eye there is practically no movement at all. On the right side there is little movement beyond the middle line. He has also complete paralysis of the palate and the left fifth nerve. He has complained occasionally of headache and sometimes he has been sick. So far he has no optic neuritis; and it is important to remember that in these cases of pontine tumour it may be very late indeed in the clinical history before optic neuritis develops and, indeed, it may not develop at all. The tumour may infiltrate so gradually as to allow of the adjustment of the increased pressure without leading to optic neuritis. Another thing which we must remember in the case of children is that in them the sutures are not so firmly fixed as in adults, and not rarely when the pressure becomes intense in cases of intracranial growth the sutures are separated and there is formed between the sutures so separated a growth of ill-developed parchment-like bone which takes the place of the ordinary skull bone. Infiltrating gliomata seem to be much more common in children than in adults, so much more common as to constitute a justification for including a case like this in a lecture on paralysis in children. It is quite a typical condition. You may find in another case that some other muscles are affected; in another case the right side might be hemiplegic; and in another case you may find optic neuritis present. The absence of optic neuritis does not forbid one to diagnose pontine tumour in such a case as this but, of course, its presence would lend confirmation to the view.

The next case I have to show you is that of a girl who is one of a family of five children and she is the fifth. Of this family the oldest girl is paralysed and is now in the infirmary. I should have said there are four sisters and one brother. One sister and the one brother are affected in the same way as the patient. The sister is aged 25 years and began to develop symptoms at the age of 14. She is unable to walk and her speech is much affected. The brother is the third in the family and he has suffered from childhood. In his case there is considerable wasting of muscles, which began to be noticed five years ago. There is a healthy child between that and this patient. So it shows in the family history the curiously sporadic way in which this disease, Friedreich's ataxy, may affect a family differently. There is no doubt, I think, that Friedreich's ataxy is a disease in which there is a tendency to decay and early death of certain parts of the nervous system—viz., the afferent parts of it. But it is curious how in one family you may have three or four members who are perfectly well and a single isolated case who has inherited this tendency. Here we have three members of a family affected out of five. But the curious thing is that the child next older than this one is well, the one older than that has paralysis, and the one older than that again has paralysis. So there is a sort of "lucid interval" between the diseased children. This patient first began to have difficulty in walking some years ago and a few months ago it was also noticed that she had some peculiarity about her speech. As long as three or four months ago it was noticed that she spoke in a peculiar way and her walking has become a matter of more and more difficulty. She has no pains and there is no interference with the sphincters. As she sits here you can notice a few of those spontaneous movements, choreiform in character; and in Friedreich's disease you frequently have a condition which has been mistaken for true chorea. I have known cases sent in from the out-patient department as cases of chorea which were really cases of Friedreich's disease. She experiences difficulty in walking and her knee-jerks are absent. Then she has a peculiar deformity of the foot which is met with in Friedreich's ataxy, the high arch and hollowing out producing pes cavus and a tilting up of the toes. She also has distinct nystagmus on looking to either side. She has also what is very common in Friedreich's ataxy, lateral curvature of the spine. She has no sensory disturbance at all; her sensation is perfectly good everywhere. So we have in Friedreich's ataxy a condition in which the nervous system is interfered with in that part on which coördination and locomotion depend. There is no doubt, I think, that in some cases the cerebellar structures are to some extent involved. At all events, the tracts leading up to the cerebellum, on which coördination depends, are the structures which are most affected. It differs, of course, very strikingly from ordinary locomotor ataxy in the absence of any spontaneous pain. There are no spontaneous pains here; the pupils in this case and in all cases of Friedreich's ataxy react to light, whereas in tabes it is the rule for the pupil to be inactive to light. Also in Friedreich's ataxy there is no interference with the sphincters, whereas in marked cases of locomotor ataxy, where the power of locomotion is interfered with, the sphincters are almost certain to be affected. Another point in favour of it being Friedreich's disease in this case is the youthful age of the patient. In some of these cases one can find traces of the disease as early as six years of age. The condition generally, I think, justifies us in looking upon it as one of that class of case that I have alluded to in which there is a tendency in certain structures or parts, more or less definite parts of the nervous system, to this early decay and death. The other patient illustrates the same condition and in him you will see there is spontaneous movement present, rather more markedly, I think, than in the case of the girl. In his case there is a much longer history than in hers, because apparently even as a boy he was late in learning to walk and had considerable difficulty in maintaining his equilibrium if anything happened to knock against him when he was at school. He was often falling over and was easily upset when walking or standing. In his case there is a family history. His sister was in here a few months ago suffering from the same condition. He is much more helpless than is the other patient whom you have seen. He is practically unable to stand and has a good deal of difficulty with his hands and he has marked nystagmus, like his sister, but he has a very curious condition which I have only once seen in a case of Friedreich's disease and which I think is very unusual. That is optic atrophy. And in a critical digest which was published in *Brain* some years ago there was only one case

recorded in which optic atrophy was present and in that case even it was doubtful whether it really was a true case of Friedreich's atrophy. Here we cannot have any doubt about what the disease is, because there are the classical clinical condition and the family history; and we have seen his sister who presents a quite well-marked picture of the affection. With regard to speech it is usually stated that speech is affected in Friedreich's disease; and that is true, but I think one ought rather to say that it is the articulation which is affected. The articulation is characterised by a peculiar slurring and indistinct utterance of the consonants, very often a little like the articulation which one meets with in cases of disseminated sclerosis. In that the classical articulatory difficulty is said to be scanning in character, but I do not think that is quite correct. You do occasionally come across cases of disseminated sclerosis with the typical scanning utterance, but a somewhat indistinct utterance, almost an alcoholic utterance, is much more common and it is also the utterance which you find in Friedreich's ataxy. This patient's utterance is curiously indistinct, as you have heard from the replies he gave to our questions; there is a loss of all crispness and clearness, so that after a time it becomes difficult to understand the words uttered by him. It is a disease which is not associated with any spontaneous pain, as I have said, and it is one which, unfortunately in him, although quite unusually, is associated with optic atrophy, which makes it difficult for him to read. There is no trouble with the sphincters.

Next I shall show you two brothers, whom some of you have seen in the out-patient room, cases of pseudo-hypertrophic paralysis. The history is that there has been difficulty in walking. The father and mother are healthy but in the father's family there is a history of fits. The difficulty in walking has come on gradually in each. The first boy walks in a characteristic way; he has the big calves and the peculiar difficulty with his feet which so many of these cases get, a difficulty which is added to by the contraction which takes place in the gastrocnemius. One symptom which these patients often have, and it is possessed by these boys, is difficulty in going upstairs. And when they do go upstairs it has to be by one step at a time. You will see that that difficulty is present here. But you will notice there is not the same difficulty in coming down again. I have seen these cases able to come downstairs as quickly as anybody else. One knows, of course, the classical illustration of the difficulty they have in getting up from the floor, and these boys show it in a characteristic way, though the younger of the two has not yet learnt to put his hand on his thigh to aid him in resuming the upright posture. Those boys are typical examples of pseudo-hypertrophic paralysis; there are the enlarged calves, there is a little wasting of the shoulders and the infraspinati are enlarged so that they illustrate the disease in a very marked way. The myopathies are of different varieties. You may have the pseudo-hypertrophic type; you may have another condition in which atrophy is the marked feature, and those are the cases which we know as those of idiopathic muscular atrophy. There are other cases in which the face is affected as well as the limbs and in which the patient is unable to close his eyes or to whistle. Those are spoken of as the facio-scapulo-humeral type. But there is every reason to think that they are really varieties of the same diseases, that they are all cases of myopathy. For you may have a case of pseudo-hypertrophic paralysis which afterwards develops some face weakness and then you have a case of the facio-scapulo-humeral type. And it has been shown clearly that in the same family there may be a case of pseudo-hypertrophic paralysis and another case of idiopathic muscular atrophy and another in which the face is affected. So that all these facts seem to point in the direction of this disease being one and indivisible but illustrated by a good many different types, and the condition seems to be one in which there is an inherited tendency to decay of certain parts of the organism. And so far as we can find as yet there is no defect in the nervous system proper; the defect seems to be an inherited one in the muscle itself, which leads to decay of the muscle and the substitution of fibrous tissue for muscular tissue. Of course, it is possible that finer methods of investigation may reveal that there is some change in the nervous system itself, but so far all research has failed to reveal any such change.

As regards the treatment of these conditions, of course they are quite hopeless from that point of view. Nothing that has yet been devised has modified the course of the disease in any particular. But one ought to remember that the clinical course does differ very much in different cases. In some cases you may have a defect which is visible and obvious and occurring early in life and which may still go on for months without becoming worse. I had a patient recently under my care as an out-patient, a man, 50 years of age, who was a typical instance of this disease. He walked in the same way as this boy and he had never been able to run. In that case, therefore, the disease had really been present from very early life and had prevented him even as a boy from running, but it had never gone so far as to abolish his power of locomotion. He was able to walk about quite as well at 50 years of age as he was at five, and so we are justified in saying that in those 45 years the disease had made no progress. In other cases the patient has been well until he has attained the age of 17 or 18 years and then there is a sudden rapid development of this weakness, and this weakness may go on rapidly to complete paralysis. I had another case, which I have under my care now, who was an athlete up to the age of 17 or 18 years, and then at that period of his life this disease developed, of the pseudo-hypertrophic type. The result was that in three or four years he became helpless and now he is bed-ridden and unable to use his legs at all. Neither can he use his arms but only his hands.

You will thus see that this disease is met with in many different varieties and one must not take too absolutely a hopeless view of any particular case which comes before us. It is possible that what has happened once may happen again, and any case of pseudo-hypertrophic paralysis may be of that slowly developing variety. But the majority of instances of this disease are of the rapidly developing form and the disease progresses until it renders the patient completely helpless.

A CASE OF CARCINOMA OF THE APPENDIX.

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PRIMARY carcinoma of the appendix is an uncommon disease. It has been said to form one out of every 251 of the carcinomata which affect the bowel. In a recent monograph[1] it is stated that 40 cases had been collected, "well over half of which have been recorded in the last five years." It may therefore be confidently asserted that the disease is not nearly so infrequent as at the present moment it seems to be. The fact that Letulle and Weinberg whilst examining cases of appendicitis obliterans quite unexpectedly discovered two examples of carcinomatous disease clearly indicates that unless appendices are systematically examined with the microscope the true condition will remain undiscovered. As the affection is sufficiently rare to prevent any one observer gaining special experience, it becomes the bounden duty of those who meet with such cases to report them *in extenso*. In the present state of our knowledge it seems beyond the power of the individual to do more. For this reason we have decided to give a detailed report of the following case. It may be premised at once that clinically the diagnosis is impossible, the case appearing to be simply one of chronic, subacute, or acute appendicitis. It depends entirely on an examination of the ablated organ. The important question is, "How can the surgeon recognise the disease?" or "What are the morbid anatomical lesions which may raise his suspicions as to the true state of affairs and render a microscopical examination advisable?" Looking over the 40 recorded cases it is noticed that the carcinoma has been found in the following situations: at the distal end of the appendix, 48 per cent.; at the middle section

[1] W. H. Battle and E. M. Corner: The Surgery of the Diseases of the Appendix Vermiformis and their Complications. London, 1904.

of the appendix, 37 per cent.; and at the cæcal end of the appendix, 15 per cent. It will be seen that the terminal portion is affected in about half of the cases. A study of the records demonstrates also that it has been found as (1) a hard, small, whitish nodule; (2) a more or less caseous little mass; (3) a nodule breaking down in the centre; (4) an apparently fibrous stricture; (5) an apparent obliteration of the lumen of the tube; and (6) a nodular bulbous tip to the organ. It would be folly to attempt to say which is the most common but it seems probable that if the strictures or local obliterations so often seen in the distal segment of the appendix were examined microscopically the forms of carcinoma associated with *these* conditions would be found to be the most frequent.

For a long time it has been known that the symptoms produced by a carcinoma are dependent almost entirely upon the anatomical or mechanical evils which its presence entails. For instance, the symptoms of benign and malignant disease of the pylorus are both due to the mechanical obstruction so caused. With regard to the appendix, it is important that this should be taken into account. For the material and organisms imprisoned behind the carcinoma are very likely to precipitate an attack of appendicitis, and the offending organ sloughs, forming an abscess or killing the patient with peritonitis, or it is removed before dissemination of the growth has taken place. As a result we know very little indeed of the prognosis of these cases as to length of life. In almost every instance the report has been made about six months or a year after the operation, the patient being at the time well. In one case recorded by Lejars the patient died after a rapid return and dissemination of the growth. Otherwise the prospect of cure seems to be good, a fact which is surprising when one considers that most of the subjects are extraordinarily young and malignant disease at such ages spreads very rapidly. For instance, "the youngest (subject) was 12, the next 15, two at 19, one at 20, one at 23, three at 24, one at 25, 26, and 27 respectively, and two at 30"—that is to say, more than a third of them are under 30 years of age! The explanation given—namely, that either the growth sloughs or the patient dies from appendicitis or the organ is removed before dissemination has occurred—may be the correct one. In the example we report over three years have elapsed and the patient when seen three months ago was still alive and well.

The patient, a woman, aged 31 years, unmarried, was admitted into St. Thomas's Hospital on Oct. 1st, 1901. She had suffered for some time from uterine trouble, for which four years ago she had been curetted. Six months previously to her admission into St. Thomas's Hospital she had been operated upon for hæmorrhoids. Two months later she had a second attack of pain in the right side which lasted two hours and caused her to faint. After a fortnight's interval she had a similar but less severe attack. The pain was over the right iliac fossa, low down. "On deep palpation in the right iliac region the patient complained of a little tenderness at a point midway between the umbilicus and the anterior superior spine of the ilium." The right kidney was found to be moveable. Per vaginam there was a hard mass to the right of the uterus depressing the vaginal fornix. This was thought to be either a solid tumour of the ovary (? malignant) or a subperitoneal fibroid burrowing into the broad ligament. The mass was equal in size to a pigeon's egg. The size of the uterus was normal.

Operation was performed on Oct. 13th, 1901. The abdomen was opened in the middle line below the umbilicus. The tumour was found to be a small fibromyoma of the right broad ligament, close to, but not directly connected with, the uterus. After this had been enucleated the appendix was examined. It was brought into the wound and found to have only a few omental adhesions and to be apparently healthy, except that at the extreme tip it was thickened and bulbous. It was on this account removed. The specimen removed was one and a quarter inches in length. Its distal end was firm and bulbous. On opening it the mucous membrane was seen to be somewhat thickened at its end and showed little injected points. The extreme tip was closed by a little nodule three-sixteenths by one-third of an inch in size which had the appearance of caseous material though somewhat harder. The lumen of the tube was quite obliterated at the tip but not elsewhere. The peritoneal coat over the distal end was much thickened. Sections were cut and a report was made by Mr. S. G. Shattock and Dr. C. G. Seligmann, stating that the tumour was a spheroidal-celled carcinoma. The wound healed by first intention. By Feb. 20th, 1902, the patient had gained nine pounds in weight and was looking much better. She has since presented herself periodically for examination. When last seen—namely, on June 18th, 1904—there was no evidence of mischief either in the pelvis or in the region of the appendix. She was very well except that she was still thin and had no appetite.

The above is thoroughly typical in every way of the kind of case in which carcinoma is found. Besides what has been said above, the subject was a young woman, and women are apparently more prone to be attacked than men, who only seem to be affected later in life. It is interesting to examine the symptoms in order to see which of them were due to the fibromyoma and which to the appendix. It seems, on the whole, that most of them were due to the former, though it is not easy to refer the sudden and severe pains in the right side to this cause. Perhaps the tumour may have caused some temporary obstruction to the right ureter. On the other hand, the nodule might be thought to have excited painful peristalsis (colic in the appendix), but as it affected the tip of the organ it would seem hardly able to do so. The tenderness over McBurney's point seems rather more likely to be due to the diseased appendix than to the fibromyoma. Finally, it may be pointed out that the concurrence of fibromyoma of the uterus and carcinoma of the appendix has never been recorded before. But Dr. Deaver in his "Treatise on Appendicitis," pp. 95, 96, reports a case of fibromyomata of the appendix, two in number, associated with similar tumours of the uterus. One was situated at the centre and the other towards the tip of the former. Both were spherical and about five millimetres in diameter. He also refers to a case of fibromyoma of the appendix, the tumour being single, which was not associated with any uterine disease.

INFLAMMATION OF THE MUSCLES, WITH SPECIAL REFERENCE TO TWO CASES OF INFECTIVE MYOSITIS.

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IT has been my fortune in the last two years to meet with two cases in which an inflammatory process in a muscle was a distinctive feature in the symptom-complex. In spite of their rarity muscle inflammations are important from their deadly character. Thus out of 17 cases of infective myositis alluded to by Lorenz[1] seven were known to have died in from four to 16 days; in one of my cases death occurred on the sixth day. Again, in 15 cases of true dermatomyositis death followed in 11 and of five cases of polymyositis hæmorrhagica all died.

I have taken the subjoined classification from Lorenz's exhaustive monograph on "Muscle Diseases":—

A. Suppurative varieties.
  1. Traumatic.
  2. By extension.
  3. Metastatic.
  4. Infective myositis.

B. Non-suppurative varieties.
  1. Polymyositis.
    Dermatomyositis.
    P. hæmorrhagica.
    P. with erythema multiforme.
  2. Neuromyositis.
  3. Myositis in connexion with joint lesions.
  4. Myositis tuberculosa.
  5. Myositis syphilitica.

C. Varieties with special terminal lesions.
  1. Muscle scars (myositis fibrosa).
  2. Myositis ossificans.

I may add a few notes on the more unusual forms.

Dermatomyositis.—Not unlike trichinosis. Causation, unknown. After prodromal symptoms for several days marked fever, inflammation of the skin, subcutaneous tissue, and the muscles supervene. There is enlargement of the spleen as well as marked sweating. Death occurs from lesions of the respiratory muscles or the patient slowly recovers.

Polymyositis hæmorrhagica.—Very similar to dermatomyositis but the heart is especially affected.

[1] Lorenz: Die Muskelerkrankungen I. Theil. Nothangel.

Neuromyositis.—Closely related to multiple neuritis.

Myositis with joint lesions.—Acute rheumatism and gonorrhœa.

Myositis tuberculosa.—Either hæmatogenous or due to extension.

Myositis syphilitica.—Either a diffuse inflammation with skin implication or gumma.

Myositis fibrosa.—May occur as a definite disease, probably due to congenital tendency, but is more commonly a secondary condition.

Myositis ossificans.—(*a*) Local variety practically always traumatic in origin, and (*b*) myositis ossificans progressiva affecting children and young adults, associated with inflammatory phenomena and probably due to congenital predisposition.

The most recent work has shown that micro-organisms play a large part in the immediate causation of muscle inflammation. In the suppurative varieties this has been definitely proved: streptococci, staphylococci, pneumococci, bacillus typhosus, and bacillus mallei have been demonstrated in particular cases. In the non suppurative varieties, although this causation is probable, yet at present it is not supported by direct evidence. Dermatomyositis has been confused with trichinosis and this has led Unverricht to suggest a gregarina invasion as a possible cause, such a condition being known in animals; this, however, has not yet been verified. Lessened resistance to infection from exposure to cold and exhaustion will naturally predispose to these lesions and the hæmorrhages known to occur in overworked muscles will afford a definite localising influence to excessive muscular action.

Brunon's list of muscles affected in infective myositis runs as follows: Pectoralis major, deltoid, triceps and biceps, psoas, quadriceps, and the gastrocnemius. In both of my cases the pectoralis major was the muscle affected. The inflammatory process attacks the interstitial tissue in the first instance and it is difficult to determine the part degeneration plays in the muscle-fibre changes. In acute cases fever is generally noted, a point of some importance in the diagnosis from muscular rheumatism. Attention will be drawn to the muscle or muscles by their becoming swollen and eventually hard and shortened when the whole belly thereof is involved; in other cases nodules may be found. The skin may or may not show œdema. When œdema is present the underlying muscle change is difficult to detect. In my first case it was not recognised until the second operation; in the second the œdema was closely limited to the area of skin covering the muscle involved. Pain is a marked feature and is greatly increased on movement stretching the affected muscle; in myositis syphilitica it may only occur at night. Limitation of movement naturally is present, partly due to dread of pain but also to contracture induced by the irritation of sensory nerve fibres passing through the inflamed area.

I shall make special reference to infective myositis, which may be defined as a form of muscle inflammation not due to definite traumatism nor part of a general septico-pyæmia, yet running the course of an infective disease like osteomyelitis. Lorenz, writing in 1898, recognises but 17 cases up to that date. Miyake,[2] writing in 1904, says that the disease is fairly common in Japan, 33 cases coming under his observation in 21 months. He gives, too, a better prognosis than usual, possibly due to the infection arising from staphylococci rather than streptococci.

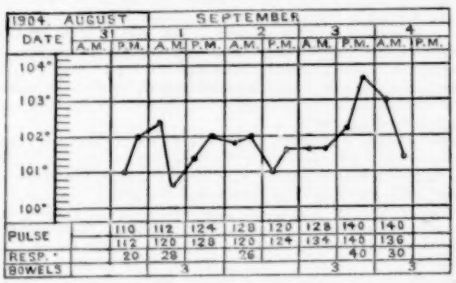
In both of my cases strain was suggested as a predisposing cause. In the first case nothing further was made out, but in the second case Dr. H. E. Annett of the Liverpool Institute of Comparative Pathology, who kindly examined a portion of muscle for me, reports: "A smear of the pus show microscopically streptococci of two to eight members in the chain. Pus inoculated intraperitoneally into rabbit produced death in 36 hours—typical streptococcal infection."

The disease is met with in three distinct varieties, a malignant form killing in a few days, an acute form in which in spite of severe general symptoms recovery may occur, and a mild subacute form.

After the general description I have already given I need only record the details of my two cases.

CASE 1.—A male, aged 19 years, was admitted into my men's ward at the Royal Infirmary, Liverpool, on Nov. 10th, 1902. He stated that eight weeks before admission he thought he strained his arm at work for he was attacked with severe pain in the chest. Three weeks later there was very marked limitation of movement and swelling over the upper left chest was noted; one week before admission a lump was noticed in the armpit. On admission he looked ill, the temperature was 102° F., the pulse was 88, regular, and of poor tension, and the respirations were 20. The left arm was kept close to the chest and passive movement was painful. A diffuse brawny swelling extended from the clavicle to the nipple on the left side. The skin of the anterior axillary fold was cracked and sore (the result of local applications). Just below the lower border of the pectoral muscle was an area of softening. An incision was made into the softeped area on Nov. 21st and a further more extensive one on the 29th. Although the sheath of the pectoral muscle was freely opened healing was slow. It was apparently hastened by the administration of protonuclein. The patient left the hospital on Dec. 30th practically well.

CASE 2.—I saw the patient (a single woman, aged 45 years) on Sept. 4th, 1904, with Dr. Mary Birrell Davies. She was evidently deeply poisoned, the face was livid, and the expression was dull. The pupils were dilated. The temperature was 103° F. and the pulse was 140 and very soft. The heart and lungs were normal. There was marked œdema of the skin over the right upper chest, limited very definitely below by the anterior fold of the axilla. A few scattered erythematous areas were also noted. No glands could be felt in the axilla. The shoulder-joint seemed to be intact. Mr. Douglas-Crawford cut down upon the pectoralis major later in the day and on opening the sheath of the pectoral muscle found suppuration in it but no definite abscess formation. The inflammatory process had extended along the suspensory ligaments of the breast. The patient succumbed a few hours later. Dr. Davies has very kindly written some notes bearing on the early history. The patient thought she had had a chill, as she was "shivery" on August 29th and 30th. On the 31st, when Dr. Davies first saw her, the temperature was 101°, the pulse was 110 and full, and there was pain in the right upper chest, the arm being kept closely to the side and movement being resisted. The first trace of œdema over the muscle was noticed on Sept. 3rd and on the 4th death occurred, within a week from the initial shivering. (See chart appended.)



Finally, as regards treatment, general measures must be adopted to maintain the patient's strength; Dujardin Beaumetz[3] speaks favourably of kola. I thought my first case was distinctly improved by the exhibition of protonuclein. I cannot say that in infective conditions I have noted much benefit from antiseptic drugs. Beaumetz speaks well of asaprol, a soluble naphthol, in daily doses of from 45 to 60 grains. Antistreptococcic serum should be useful in streptococcus cases but at present the results therefrom in other streptococcus lesions are not altogether satisfactory. For my own part, I should urge speedy and free incision into the affected muscle even before definite abscess formation is perceptible.

In conclusion, I must express my thanks to Dr. Davies for the early notes of Case 2 and also for the temperature chart.

Liverpool.

[2] Miyake: Mittheilungen aus dem Grenzgebieten der Medicin und Chirurgie, Band xiii., 2, 1904.

[3] Dujardin Beaumetz: Twentieth Century Practice of Medicine.

RUSSIAN RIGHTS TO DISSECT THE DEAD.—The infirmary medical officer (Dr. Patchkoff) of Moscow having applied to have the rights of the infirmary medical officers to dissect dead patients defined, has learned that such may not be allowed without the consent of the relatives except in cases of certain specified crimes.

THE TREATMENT OF OBSTRUCTED LABOUR WHEN CAUSED BY THE IMPACTION OF A TUMOUR IN THE PELVIS, ILLUSTRATED BY FOUR CASES.

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THE subject of this communication claims the attention of the greater number of our profession. Every general practitioner, every physician, and every operating surgeon may be called upon in such cases to give distinct advice and to carry out prompt treatment without any previous warning. Delay or want of decision on the part of the practitioner may be followed by the most disastrous consequences. My object in bringing this subject forward is to advocate in all these cases abdominal section and removal of the tumour by the method described hereafter, which was carried out in Case 4. The various arguments for such treatment will be best shown by deductions drawn from the histories of the cases which I am about to relate.

It will be observed that the condition is not limited to the primipara but that a multipara who has been easily delivered on previous occasions may without any symptoms during pregnancy be found in labour with the pelvis occupied by a tumour to such an extent that delivery is impossible, from one to two years apparently being long enough for the growth of a dermoid ovarian cyst of sufficient size to fill completely the pelvis. The tumour can occasionally be pushed up into the abdomen and when this can be done without using too much force it relieves the case of all urgency for the time being, the necessity for abdominal section being only deferred. It is evident that if labour is at all advanced this simple procedure is impossible; equally so it is if the tumour has contracted adhesions in the pelvis. Rough treatment of any kind is liable to be followed by sloughing or suppuration of the tumour and thus to place the patient in great danger. The temptation to apply forceps might be yielded to in cases in which the pelvis was only partly obstructed. The danger of such practice is well exemplified in the after-history of Case 3, in which the ruptured and suppurating cyst had to be removed when the patient was almost *in extremis*. Should any special complications of labour arise, as, e.g., those in Case 2, it may be necessary to empty the uterus as rapidly as possible in addition to removing the obstruction. The only remaining way out of the difficulty may be, as in Case 2, by Porro's operation, which is a severe form of mutilation, but can be more rapidly performed than Cæsarean section, and hence may be called for when the patient's condition is such as not to be able to stand any prolonged manipulation. Operations through the vagina I will only mention to reject, as I consider an opening into the peritoneal cavity from the vagina at any time to be a dangerous thing, and especially is it so at the time of labour, and if made during pregnancy before labour commences the hæmorrhage and necessary traction on the perineum would most likely induce labour.

All the foregoing points have occurred to me in actual practice; the result of my experience is to make me advocate the treatment which was carried out in Case 4 as the recognised treatment for the future whenever it is possible—viz., to open the abdomen as soon as the diagnosis is made—preferably before labour sets in—to turn out the pregnant uterus, to remove from behind it the tumour which occupies the pelvis, then to replace the uterus and sew up the wound. If labour follows immediately no harm need result; if as in Case 4 the wound has time to become soundly healed before labour sets in, still better is the prospect. Cæsarean section or some form of hysterectomy would be reserved for those cases in which after opening the abdomen it was found either that the tumour could not be removed or that it was too intimately attached to the uterus to be removed and at the same time to allow the uterus to remain without increased risk. The cases shortly are as follows.

CASE 1.—On Dec. 23rd, 1888, a primipara, aged 22 years, was in the commencement of labour. The pelvis was occupied by a semi-solid tumour, so that there was only just sufficient room for one finger to pass close behind the pubes to reach the os. Having failed to push up the tumour I proposed to the late Mr. W. Cadge, who saw her with me, to open the abdomen, to draw the uterus out of the wound, to remove the tumour from the pelvis, and then to replace the uterus and to deliver naturally. This proceeding he, however, did not sanction as he did not think it possible; accordingly, with a very great amount of force, I pushed the tumour up into the abdomen. Normal labour followed and the patient did well. A second pregnancy followed and when labour occurred I again pushed up the tumour as before and no bad symptom followed.

CASE 2.—In March, 1892, a multipara whom I had attended less than two years previously in a labour which presented no complication was again in labour at full time. There was accidental hæmorrhage, with tonic contraction of the uterus of nine hours' standing, together with a semi-solid tumour which exactly filled the whole pelvis and appeared to be firmly fixed there; her condition was one of such great exhaustion that the quickest possible method of delivery was the only justifiable proceeding, hence Porro's operation was the one chosen and at the same time the tumour, a dermoid ovarian cyst, was removed from the pelvis; the patient recovered. This case has been already published.[1]

CASE 3.—In February, 1895, a mother of seven children was again in labour at full time. The pelvis was partly occupied by a semi-solid tumour. Delivery was accomplished with the forceps. Gradually urgent symptoms commenced and increased. The patient had pelvic peritonitis, the upper part of the abdomen being excluded by adhesions. There was high temperature with feeble and rapid pulse and when I opened the abdomen I found the pelvis containing a mixture of pus, sebaceous material, hair, bone, teeth, and the ruptured cyst, all of which were washed out as rapidly as possible, and finally after a tedious after-treatment the patient quite recovered.

CASE 4.—This patient was fortunate in having a sharp attack of diarrhœa and pain which called attention to her condition and led to the discovery of the tumour during the eighth month of pregnancy by Mr. C. E. Muriel who attended her. The patient was a multipara, aged 30 years. Her last labour, which was quite natural, had occurred rather less than two years previously. On examination the whole of Douglas's pouch was filled with a semi-solid mass, leaving just room for the finger to pass close behind the pubes to the os uteri, which could with some difficulty be reached. The tumour appeared to be firmly fixed and examination per rectum showed that it was not attached to the sacrum. I decided to remove the tumour by abdominal section and hoped to be able to do this and to get the wound soundly healed before labour commenced.

On Nov. 6th, 1895, at the end of the eighth month of gestation, I made an incision in the middle line 11 inches long and drew out the whole fundus of the uterus, which, with the able assistance of the late Mr. W. Waring, was kept wrapped in hot sponge cloths; then, by passing my hand in behind the uterus I succeeded in enucleating the tumour from its adhesions in the pelvis. It was the right ovary and was just large enough to fill completely the pelvis. Its pedicle was twisted upon itself, one whole turn from left to right. This was ligatured and the tumour was cut away. The uterus, which had been outside the abdomen for a space of five minutes, was now with some difficulty returned. This was no easy task as there appeared to be insufficient skin to cover it. However, by dragging upwards the two sides of the abdominal wound it was eventually made to close, a large number of sutures being used. The whole operation lasted 25 minutes.

On opening the tumour it proved to be a suppurating dermoid cyst. Its walls were becoming gangrenous and I have no doubt but that it would have burst during labour. The after-history contains no complications, the wound healed quickly and soundly, and the patient was able to be moved to her own house in three weeks. On Dec. 1st, that is, 25 days after the operation, she was delivered by Mr. Muriel with the forceps in order not to allow more strain to be put on the cicatrix than was possible. The child was full-sized and the mother made an uneventful recovery.

I have not at present seen any record of a similar operation but I hope that after this it may hold a recognised place in surgery as the best treatment for these cases.

Norwich.

[1] Brit. Med. Jour., Feb. 11th, 1893.

A CASE OF EXOPHTHALMOS IN THE NEWLY BORN.

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THE ordinary forms of caput succedaneum, moulding, or depressions of the head in the newly born rarely attract more than a transient interest. Where, however, there has been infantile hæmorrhage producing cerebral or cephalic phenomena the clinical features and prognosis assume a wider significance. The following case of exophthalmos at birth is the first that has come under my observation.

I was called to attend a patient in her seventh accouchement on Sept 23th, 1901. Labour had set in on the 27th at midnight and rupture of the membranes at 4.30 A.M. I made examination per vaginam on my arrival at 5.15 A.M. and found that the presentation was cranial. The os was of the size of a five-shilling piece. An enema was given to relieve the loaded state of the bowels. The labour pains having decreased in force and frequency I was able to leave the patient for a few hours. I returned at 2 P.M. and found the labour was not much further advanced; half an hour later, however, I was hurriedly sent for and I learned that the child had been born on the floor. The mother stated that the infant's head had not been "dumped" on the floor as she had lain down previously, but that there was some delay at the outlet. The nurse noticed that the child was not breathing naturally. When I tied the cord I found that the infant had considerable difficulty in respiration and was panting heavily, but the child rallied with artificial respiration. The vault of the cranium showed evidence of protracted pressure and presented a perfectly flattened-out, square, squashed appearance; the frontal and parietal bones, while not overlapping, were practically at right angles. There was no localised depression on the head otherwise. The child's face was pallid and both eyes were in a state of exophthalmos, the eyes protruded like goggles, and to such a degree that the sclerotic was seen above and below the cornea, and the eyelids were unable to meet. The child accordingly had a most "uncanny" look of wild terror. There was no ptosis. The pupils were equal and fully dilated. In a few hours after birth the nurse noticed an effusion of blood under the conjunctiva in the upper sclerotic region of the right eye. On the following day the effusion had increased and it was then noticed that the right eyeball projected downwards and forwards, bulging out the lower eyelid—evidence of what seemed an undoubted paralysis of the superior rectus muscle. When I closed the left eye the child was seen to move the right eyeball inwards and outwards; the projection downwards, however, could not be overcome. No attempt, however, was made to raise the eyeball. No paralysis could be detected in the left eye, but the exophthalmos was bilateral and equally pronounced in both eyes. By the third day a patch of ecchymosis was observed on the external surface of the right upper eyelid; the goggle-eye appearance was still so prominent that the mother said she had "no conceit of a child with such staring eyes." There was no improvement of the paralysed superior rectus. On the fifth day, however, the child made a feeble attempt to raise the eye ball and on the following day this movement was more marked; the bulging out of the lower eyelid, however, was still prominent and a slight ecchymosis was now noted over the external surface of the *left* upper eyelid, but this was a third less in extent than that noted three days previously over the right eyelid. On the seventh day the effusion under the conjunctiva had diminished and did not encroach beyond the upper margin of the cornea. The child was now and again seen to make a faint effort to raise the paralysed eyeball, indicative of the paralysis passing off as the effusion became absorbed. The little patient otherwise was well and no other lesion could be observed. When the infant had both eyes widely open the upper margin of the cornea of the right eye was seen in exact horizontal line with the inner canthus. On the ninth day the subconjunctival effusion had decreased to a mere lingering trace, but the ecchymosis on both upper eyelids still persisted, and when the child raised the eyeball one-third of the cornea was above the level of the inner canthus, but when the eye again came to rest the upper margin was still only in line with the inner canthus. The exophthalmos which had gradually decreased during the previous two or three days was now no longer present on the tenth day. On the eleventh day the subconjunctival hæmorrhage disappeared and when raised the eyeball reached a higher level than previously noted, but when at rest the upper margin of the cornea was still only in line with the inner canthus. On the thirteenth day the right eye looked almost equal to the left. When the child raised both eyes, however, the right drooped almost immediately thereafter; both pupils contracted equally to light. On the eighteenth day a slight internal squint of the affected eye was noted. On the nineteenth day a clot of brown coagulated blood came down the right nostril. Three weeks after birth there was still seen a slight degree of paralysis of the superior rectus, but this was only occasionally apparent. Dr. James Dunlop, my partner, saw the child on the second day with me in consultation.

Later note.—The child is still alive, strong and healthy in every way, and is now fully three years of age.

Clinical remarks.—Embryology reveals that the vault of the cranium is formed in membrane and the base in cartilage. The yielding, parchment-like nature of the young child's skull is such that it can easily be compressed or indented by any abnormal resistance to its egress in the maternal parts or by the use of forceps. The question arises in this particular case, Was the pressure intra-uterine? Was the pressure exerted by the presenting cranium on the promontory and prior to dilatation of the os? One might be inclined to believe that the presentation at an early part of the labour was facial with the chin anterior and when the extension had been overcome the vault was impinged on the promontory which would account for the slowness of labour and the subsequent flattened vault, but against this theory it is recognised that a facial presentation is rarely rectified unless by mechanical interference. Forceps were not used. There was no pelvic deformity. There was no history of hæmophilia; there was absolutely no caput succedaneum although the labour was somewhat protracted. It is difficult to imagine that such an injury could arise from arrest of the head on the floor of the pelvis and it is not easy to explain why the hæmorrhage in this case should occur previously to birth unless from cranial pressure on the promontory. There had been no pressure by instruments. On the other hand, it is important to note that after the head was born there was some delay and one can readily understand how in such a case the uterine contractions may, and very often do, cease for a time and then the veins of the neck are compressed by the external orifice and the cord by the body of the child against the wall of the pelvis; the face rapidly becomes livid, purple, almost black, and if the infant be not quickly extracted or expelled it may die from apoplexy. The brunt of the pressure had evidently fallen on the right side of the cranium, there being no effusion of blood whatever into the conjunctiva of the left eye, whereas the post-orbital hæmorrhage in the right eye led to ocular paralysis, followed subsequently by a coagulum of blood being discharged from the right nostril 19 days after birth. This delay is to be accounted for by the fact that the centre of the nasal fossæ is the widest part and foreign bodies are often retained there for long periods of time. The infundibulum connects the antrum of Highmore with the frontal sinus. In children there is almost always a communication between the nasal veins and the superior longitudinal sinus and antrum.

Diagnosis.—Excluding pathological conditions such as intra-ocular tumour or overgrowth of fat in the orbit the question is, What would cause the double proptosis? This must be largely conjectural. 1. It might arise from extreme hyperæmic congestion behind the eyeballs. 2. The fall of the fœtus on the floor might transmit pressure to the base of the skull and the yielding bones while not fractured might bring about symptoms of compression analogous to what obtained in this case. The presence of hæmorrhage beneath the conjunctiva rather precludes a lesion in the crus. 3. It is not so easy to explain the nasal hæmorrhage. Had forceps been used and if fracture of the frontal bone had occurred extending through the orbital plates and involving the cribriform plates of the ethmoid one could see the obvious causation. If such a fracture be excluded it is still quite feasible to suggest that severe constriction of the

neck at the orifice would bring about congestion of the nasal veins and these being in continuity with the ophthalmic veins would explain post-orbital hæmorrhage and the blood behind would cause bulging of the eyeball downwards and forwards. This theory implies that there had been no injury to the cavernous sinus which is preserved from pressure and it is difficult to think that a branch of the third nerve, which also supplies the levator palpebræ, could there be alone affected. It may be suggested that there was (4) damage to the cavernous sinus and I am strongly of opinion that the seat of mischief was here, but whether due to pressure, inherent tenuity of the blood-vessels, or to the condition of the blood I am unable to determine; but the set of symptoms are quite in accordance with injury to the cavernous sinus on the right side originally, and subsequently extending to the left where some of the signs appeared later. It is a well-established feature that when one cavernous sinus is injured by congestion or thrombosis the other is affected later through the communication of the circular sinus. If the cavernous sinus were thrombosed I would certainly expect proptosis. The paralysis of the branch to the superior rectus might arise from the direction in which the pressure was acting or affected by some thrombosed tributary vein. It is further to be noted that the paralysis was 12 days later in passing off than the proptosis. Hawthorne has recently demonstrated that in chlorosis double optic neuritis and paralysis of the sixth nerve have followed thrombosis of intracranial vessels. Neither in my practice hitherto nor in the literature which I have been able to consult have I found any case of exophthalmos in the newly born corresponding to the case of this child which I have placed on record. Dr. Philipsen of Copenhagen, however, records a case of exophthalmos in the right eye occurring in an infant one day after birth, which was diagnosed subsequently as cephalhæmatoma externa beneath the periosteum of the orbit. In his case the tumour and the ocular symptoms disappeared and five weeks after birth the exophthalmos had completely disappeared. In a case of cephalhæmatoma which I recorded in THE LANCET in 1901[1] the blood remained liquid for several days and complete absorption occupied six weeks.

This case of exophthalmos in the newly born has a direct bearing upon the question of infantile hæmorrhage. Spencer's statistics show excess of infantile hæmorrhage in forceps cases and it will readily occur when the labour has been protracted and the head compressed. The vessels are thin, and the fœtal blood and that of the newly born differs in quantity and quality from that of the adult. The young infant has less blood in proportion to its entire weight. I find from my experiments that infantile blood has a higher specific gravity and possesses a greater percentage of hæmoglobin than the maternal blood. Nasse found the blood of young animals to coagulate but slowly. During the last 18 months I have made an extended series of observations of infants' blood with the object of demonstrating that the child's blood in the early hours of life shows delay in coagulation compared with succeeding days. The charts which I have made use of clearly prove that from the first day of life onward there is an unmistakable and decided increase of coagulability. I am not able to affirm that there is a uniform rate of coagulation of blood for all children of the same age on corresponding days following birth. Obviously, we need not look for this and for very good reasons, as any given infant's blood depends not simply on its age but on the stage of its development. Thus, the fontanelles are more open in some children than in others and there is often a retardation of the growth of the blood toward the mature condition.

In cerebral apoplexy of the newly born the time for coagulation of the blood must necessarily be longer than that which obtains in the adult, for hæmorrhages tend to be most extensive in the infant and to spread all over the hemispheres and has plenty of time to perforate and penetrate the pia in all directions and to destroy much of the brain tissue. On the other hand, as one observer states, these occurrences are so rare in adult apoplexy that they can scarcely be explained apart from the insufficient coagulability of infantile blood. Many cases of stillborn children born asphyxiated are doubtless due to cranial hæmorrhage. To show the influence of a few days of life upon the increase of coagulability of infantile blood I may quote seven of my cases that I investigated at the Glasgow Maternity Hospital, viz.:—

No.	Age.	Coagulation-time.
Case 1.	9 hours.	6 minutes 30 seconds.
	7 days.	4 minutes.
,, 2.	15 hours.	5 minutes 45 seconds.
	6 days.	3 ,, 45 ,,
,, 3.	5 minutes.	5 minutes.
	5 days.	3 minutes 10 seconds.
,, 4.	34 hours.	8 minutes.
	6 days 10 hours.	3 minutes 5 seconds.
,, 5.	22 hours.	6 ,, 15 ,,
	2 days 22 hours.	5 ,, 45 ,,
,, 6.	29½ hours.	6 ,, 45 ,,
	53½ ,,	4 ,, 15 ,,
	77½ ,,	3 ,, 30 ,,
,, 7.	1 day.	5 minutes 30 seconds.
	2 days.	4 ,, 45 ,,
	3 ,,	4 ,, 15 ,,
	4 ,,	3 ,, 0 ,,
	5 ,,	3 ,, 30 ,,
	6 ,,	3 ,, 25 ,,
	7 ,,	4 ,, 0 ,,
	10 ,,	4 ,, 0 ,,

The significance of the slower coagulation at the time of birth has an important bearing upon infantile hæmorrhage with reference to the application of forceps, as well as in performing some methods of artificial respiration.

As to the technique followed I made use of Wright's coagulometer. The temperature at which all the observations were made was 18·5° C. The number of tubes used was never less than six, and occasionally as many as 12. The blood from the child was obtained by puncture from the lobe of the ear or from the great toe, 5 centimetres of it being taken.

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Glasgow.

[1] THE LANCET, Feb. 16th, 1901, p. 466.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF ATTACKS OF TEMPORARY LOSS OF CONSCIOUSNESS AND MEMORY.

BY WILLIAM O'NEILL, M.D. ABERD., M.R.C.P. LOND.,
LATE PHYSICIAN TO THE LINCOLN LUNATIC HOSPITAL AND LINCOLN GENERAL DISPENSARY.

THE subject of these attacks of loss of consciousness and memory is a bright little woman, 50 years of age, who has little or no appearance of having anything the matter with her. She had been a patient of mine 13 years ago on account of some ailment but in consequence of her having moved to a distant town I lost sight of her until she called some months ago to consult me. The patient, with the help of a friend who accompanied her, gave me to understand that previously to that she began to suffer from dizziness. Then she became affected with what seemed to those about her to be faintings which soon passed off when she was laid in a horizontal position. After some time these fits subsided and were replaced by attacks of loss of consciousness which were succeeded by complete loss of memory of incidents or acts that occurred during the period of her

unconsciousness. As examples of these curious attacks I will give one or two out of several which the patient and her friend told me of. For instance, the Sunday before my seeing her she laid the table, dished the dinner, sat down and partook heartily of the meal, and it was only when asked by her husband if she would have a second helping of pudding that she became aware of the fact that from the laying of the tablecloth to that moment she remembered nothing whatever. About a week or ten days before the occurrence just mentioned she and her friend walked some distance to a butcher's shop to buy meat but from putting on her bonnet immediately before leaving the house to taking it off on returning home she had not the slightest recollection of what happened in the interval, although she bought the meat and paid for it and, of course, spoke to the butcher. These attacks consist of two parts—namely, the oblivion with the power the patient has while in this state of performing many of her ordinary household duties, no doubt in an automatic way, and, secondly, the loss of memory of what she had been doing and saying while under the influence of the fit. In some respects these seizures resemble somnambulism. In many cases of this condition the subjects of it in their sleep get out of bed and do many things or acts, then return to bed, and in the morning know nothing of what they had done during the night. I knew a young woman who was the temporary cashier of a charitable bazaar who one night got up in her sleep and hid the money in such a safe place that it took a day or two of diligent searchings before it was found. It may be that these fits were related to epilepsy, but the patient has never fallen down, bitten her tongue, foamed at the mouth, or injured herself in any way. Nevertheless, the faintings may have been attacks of *petit mal* and even now, in the patient's much improved state, a trained observer might be able to detect some indications of the nature of epilepsy before the attacks of loss of consciousness and memory set in.

Lincoln.

A CASE OF EPILEPSY WITH NECROTIC SOFTENING OF THE BRAIN DUE TO INJURY.

By H. K. ABBOTT, M.D. DUB.,
DEPUTY SUPERINTENDENT, HANTS COUNTY ASYLUM, FAREHAM.

THE following case may be of interest from a medico-legal point of view. A somewhat similar one was reported by me in THE LANCET of Feb. 7th, 1903.

The patient was an army pensioner, 39 years of age; he had been a steady, sober man and had been invalided from the service on account of epilepsy. While on duty as a military policeman he was violently assaulted by some reservists and severely beaten about the head. Since that he was said to have suffered from epilepsy. When he came under my observation about six months afterwards he was considerably demented, very dull and slow in answering questions, and constantly stopping to correct himself, and he occasionally passed fæces in his bed and clothing. He had three attacks of status epilepticus at intervals of several months and three or four single fits. In these the right arm and right side of the face were most affected, the right leg was slightly affected, the left leg very slightly affected, and the left arm was not affected at all. After the attacks he had no power in the right arm for a period varying from 24 to 48 hours. The last attack he had lasted for 36 hours and ended fatally.

At the post mortem examination there was found to be considerable hypostatic congestion of both lungs, the heart and abdominal organs being healthy. On the internal surface of the vertical portion of the frontal bone on the left side there was a patch about one and three-quarter inches in diameter where the bone was much denser and harder than on the right side, though not much thicker. The dura mater underlying this was firmly adherent to the bone and was of unusual thickness—quite one-tenth of an inch; it was also firmly adherent to the pia arachnoid and it in turn to the brain. The whole of the underlying part of the left frontal lobe was in a condition of yellow softening extending to the depth of the grey matter. There was also a small patch of softening with similar meningeal adhesions in front of the right frontal lobe. The dura mater was firmly adherent to the bone in the posterior part of the left middle fossa, but there was no morbid condition of the adjoining part of the brain. Death took place about 18 months after the injury to the head, an interval which was too long for the assailants to be held responsible for the fatal result.

Fareham.

FIXATION OF A STYLE IN THE NASAL DUCT.

By J. SACKVILLE MARTIN, M.D. EDIN., M.R.C.S. ENG.

THE following case may be of some little interest as indicative of the minor troubles which may follow a simple operation.

A miner, aged about 30 years, consulted me in December, 1900, on account of his right eye watering. He had previously been under other treatment, had had the canaliculus slit up, and some months before had worn a style with temporary relief. I saw him regularly until February, dilating the nasal duct with lacrymal probes, and on Feb. 26th I inserted a solid lead style one inch in length with a head a quarter of an inch long at right angles to the shaft. It was of about the thickness of the graphite in a lead pencil. I told him to return in a fortnight, when I would remove it. I did not see him again until June 12th, when he came with a request for its removal. On examination the wound in the canaliculus was cicatrised and the style was buried and completely out of sight. I reopened the wound with a Weber's knife but was still unable to see the style, though I could feel it with the probe point of the knife. It seemed firmly gripped by the nasal duct. By means of leverage exerted first with the probe point of the knife and afterwards with a strabismus hook I succeeded in loosening it, but I could not bring it near the surface or expose it to view. On June 13th and 15th I made similar attempts to move it without success. I noticed that when I had hooked the strabismus hook under it I could lift it up under the skin of the *upper* eyelid at its inner angle. It seemed to be subcutaneous in this position, so that on the 19th, having lifted it with the hook, I made a small incision over it through the upper eyelid. I found, however, that to reach it I should have been obliged to cut right through the caruncle, and as I did not wish to cause needless damage I did not pursue this route further. On the 20th I prolonged my incision in the canaliculus well inwards to the side of the nose, keeping along the lower border of the caruncle. After the hæmorrhage had stopped I got my first view of the style, the headpiece of which had rotated backwards under the caruncle and had got caught in its tissues. After freeing it with the point of the Weber's knife I was able to seize it with a fine pair of forceps when it came out easily.

I attribute the malposition of the style to the patient's habit of rubbing the corner of his eye when it watered. The case gave me some little anxiety at the time and in future proceedings of a similar nature I should endeavour to expose the style before making attempts at its extraction. The patient obtained temporary relief and was in the district for about three months after without further complaint. After that he left the neighbourhood and I have not heard of him since.

Leigh, Lancashire.

A Mirror of HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum allorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. GEORGE'S HOSPITAL.

A CASE OF INFANTILE CONVULSIONS DUE TO ANÆMIC POISONING.

(Under the care of Dr. F. G. PENROSE.)

FOR the notes of the case we are indebted to Mr. E. W. Dewey, house physician.

A boy, aged one month, was admitted into St. George's Hospital, under the care of Dr. F. G. Penrose, on July 4th, at 9 P.M., with a history of "screaming fits" during the past 12 hours. He had apparently been in good health until three days previously when a rash was noticed about his

buttocks and thighs. On admission there was some tonic contraction of the fingers and hands present and the eyes were fixed but the child was quiet and breathing easily. The temperature was normal. It was noticed that the chest wall pitted rather more easily than usual with the pressure of the stethoscope but no œdema was found elsewhere. The rash on the buttocks consisted of a number of large superficial ulcers, secreting a small quantity of thin pus and looking as if they were the remains of pustules which had broken down. The contraction of the fingers passed off shortly after admission and the child dropped off to sleep. During the night he had two similar attacks, associated with cyanosis and slow shallow respiration, and during the second of these the pulse became so feeble that an injection of brandy (five minims) was administered. At 9 o'clock on the following morning the child had a fourth attack which proved fatal in half an hour. In none of these last three attacks were there any general convulsions but there were, as on admission, clenching of the hands and fixation of the eyes; there was also occasional rigidity of the head and neck.

Necropsy.—At the post-mortem examination nothing was found in the brain or spinal cord beyond a few petechiæ and a general hyperæmia. The eyes unfortunately were not examined. On examining the abdomen the ureters were found to be dilated enormously, in places being nearly as thick as the little finger; they were removed with the kidneys and bladder *en masse*. On opening them they and the bladder were found to be filled with greenish purulent urine; the kidneys were found to be the seat of advanced pyelitis and the cortex of each was studded with abscesses; the bladder was definitely though slightly dilated and its wall was congested and considerably thickened. No evidence of obstruction to the outflow of urine was anywhere to be found except at the meatus. This was so occluded by the existing phimosis that only a very fine probe could be passed into the urethra. All the other organs appeared to be healthy.

Remarks by Mr. DEWEY.—The above case is, I think, worth recording both on account of the unusual age of the patient for the onset of uræmia and because that very common condition, phimosis, although not such as to prevent micturition, appears in this case to have been the cause of death. It was elicited from the mother subsequently that she had noticed that the child had never passed as much urine as normal since birth. She had not attached much importance to this, however, as there had never been actual retention or apparent difficulty in micturition. She insisted that the child had shown no sign of ill-health until three days before admission, when the rash appeared, and that there were no fits prior to the day of admission. There can, I think, be no doubt that uræmia was the cause of the convulsions and that it, together with the condition of the kidneys, was primarily due to the obstruction caused by the phimosis. The absence of all symptoms of acute retention is interesting, as is also the apparent absence from the history of all source of infection, such as attempted catheterisation. The advanced state of disease existing in the kidneys, considering the patient's age and the absence of all symptoms previously, was also remarkable. I am indebted to Dr. Penrose for permission to publish the case.

Remarks by Dr. PENROSE.—This case appears to be one of considerable importance as showing an organic cause for "infantile convulsions" that may possibly be of more frequent occurrence than is recognised. As recorded by Mr. Dewey, the only point noticed during life beyond the tiny opening in the prepuce was that the tissues over the anterior chest wall were slightly œdematous. A very careful search was made during the examination for other obstruction besides the tight prepuce but no other was present.

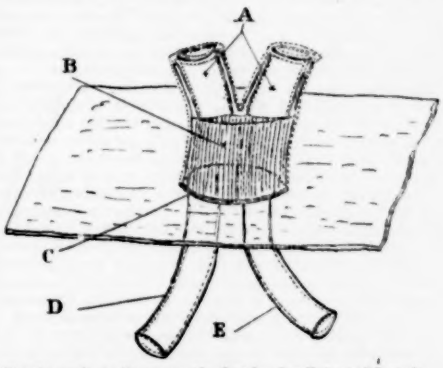
ROYAL SURREY COUNTY HOSPITAL, GUILDFORD.

A CASE OF RUPTURE OF A CONGENITAL UMBILICAL HERNIA WITH DOUBLE INTUSSUSCEPTION OF THE ILEUM INTO A MECKEL'S DIVERTICULUM.

(Under the care of Dr. E. G. A. MORSHEAD.)

FOR the following notes we are indebted to Dr. H. F. Parker and Dr. S. Southall, who say that two very similar cases of the above pathological condition have come under their notice, each of them presenting remarkable features.

Case 1 was treated at the Royal Surrey County Hospital. An otherwise healthy male child was seen when two weeks old by Mr. N. F. Kendall of Chiddingfold, who states that there was at that time a mulberry-coloured protrusion half an inch in length at the umbilicus. A probe passed downwards for two inches in the direction of the bladder through a small sinus which discharged a little pale fluid, suspected but not proved to be urine. There was no fæcal odour. At the age of six weeks the infant was shown at a meeting of the West Surrey branch of the British Medical Association held at Guildford, when the prevailing opinion was that the case was one of patent urachus and that no operation was desirable at that time. Some six weeks later, the child being then three months old, the protrusion increased and a condition of strangulation took place about midday on Jan. 12th, 1903. He was admitted on the same evening into the Royal Surrey County Hospital at Guildford under the care of Dr. Morshead. On admission the appearance that presented itself was very similar to that described in the following case. There were two sausage-shaped projections of congested intestine at the umbilicus, about two and four inches in length respectively, continuous with one another at the base. The mucous surfaces



The figure is a diagrammatic sketch of a lint model made to illustrate the condition of double intussusception described in this paper. The dotted lines represent the mucous surfaces of the intestine. A, Intussusceptions. B, Invaginated Meckel's diverticulum. C, Umbilical ring. D, Proximal end of ileum. E, Distal end of ileum.

of the gut were external and had bled freely. The diagnosis of intussusception into a Meckel's diverticulum was made and was confirmed at an operation which was performed by Dr. Morshead at 9 P.M. on that evening.

A small incision being made slightly to the left of the umbilicus, the peritoneal cavity was opened and with much care and difficulty an intussusception of two pieces of gut was completely reduced by a combination of traction and kneading, an inverted Meckel's diverticulum, through which the intussusception had taken place, being the last portion to be reduced. The invaginated intestine measured ten inches in length, three inches coming from above and seven inches from below the diverticulum. The latter, which was now fully exposed, was found to be one inch in length, to be adherent by its distal end to the umbilical ring, and to be situated one foot above the ileo-cæcal valve. It was then cut off and the opening into the intestine closed by a double row of sutures. The umbilicus was then excised, a few deep sutures were inserted in the abdominal wall, and the wound was closed. The shock of a necessarily somewhat prolonged operation was unfortunately too great for a child of such tender age and death occurred six hours later. The necropsy revealed nothing further of importance and it was not possible to demonstrate that there had been any communication between the original sinus and the bladder.

CASE 2.—A similar case was admitted into the Wolverhampton General Hospital on July 27th, 1901, under the care of the late Mr. T. Vincent Jackson. The patient, a male infant, was aged ten weeks. On admission the following condition was found to be present. Protruding from the umbilicus were two sausage-shaped projections of almost gangrenous intestine, each projection measuring about four inches in length. The child

was very weak and collapsed. The mother stated that the child's rupture, which had existed since birth, had become larger recently owing to severe coughing on his part. No treatment had been adopted. On the day previous to admission the skin had given way and the intestines had protruded.

A little chloroform having been administered examination showed the existence of a tight constriction at the umbilical ring; this was divided by Dr. Southall and a portion of the neighbouring intestine was then drawn out; the mesentery was ligatured and the coil of gut excised, the divided ends of the healthy intestine being sutured to the peritoneum at the umbilical ring. The condition of the child precluded the possibility of anything further being done and death took place on July 29th. A careful dissection of the excised parts showed the presence of a Meckel's diverticulum one and a half inches long, adherent by its distal end to the umbilical ring. As a result of the child's straining the thin abdominal wall had given way at the umbilicus and an intussusception of the neighbouring ileum had taken place through the diverticulum, which had itself become turned inside out. The intussusception was, moreover, double, about equal portions of the intestine above and below the diverticulum having become invaginated. The intussusception having been reduced with great difficulty the coil of invaginated intestine was found to measure 18 inches in length. The necropsy showed that the Meckel's diverticulum was situated about nine inches above the ileo-cæcal valve. There was some general peritonitis.

Remarks by Dr. PARKER and Dr. SOUTHALL.—The precise condition of affairs, which it is a difficult matter to show by any drawing, is very easily explained by a model which may be made of lint in a few minutes. A long piece of lint, stitched so as to resemble a coil of intestine, should have a short, wider lateral tube fastened to its centre so as to represent a Meckel's diverticulum, and to the distal end of this is attached a square piece of lint perforated at the centre, this doing duty for the parietal wall and the umbilicus. The mechanism of the double intussusception and of its reduction is then readily shown by invagination with the finger. As regards the pathology of the original condition, it appears to be certainly one of persistence of the vitelline or omphalo-mesenteric duct, which extends from the lower part of the ileum to the umbilicus. We are led to believe, from a statement in Treves's "System of Surgery" (vol. ii., p. 727), that a congenital umbilical hernia (which is, of course, quite distinct from the so-called infantile form) is not infrequently associated with a Meckel's diverticulum, but it would be interesting to know in what proportion of cases this occurs and also if the condition of intussusception that we have described has often been observed or reported before. We are indebted to Dr. Morshead for permission to record the case which was under his care.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Seventh Cervical Rib and its Effects upon the Brachial Plexus.—Two Cases of Fungating Endocarditis followed by Convalescence.

A MEETING of this society was held on Nov. 8th, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Mr. WILLIAM THORBURN read a paper on the Seventh Cervical Rib and its Effects upon the Brachial Plexus. He said that although cases of supernumerary cervical ribs were not very rare and were tolerably well recognised he had been unable to find any complete description of the clinical symptoms which they produced. In Duval and Guillain's monograph upon the brachial plexus the seventh cervical rib was not even mentioned, and he stated that several cases of radicular paralysis of the plexus had been recently published in which this condition, although a probable cause of the symptoms met with, was not even mentioned as an etiological factor. With regard to the anatomical condition Professor Wenzel Gruber had shown that more or less well-developed ribs were liable to be met with in connexion with the seventh cervical vertebra, the condition being so frequently bilateral that 76 examples were found in 45 bodies. Occasionally the "rib" was a mere epiphysis articulating only with the transverse process of the vertebra, but more commonly it was a developed anterior transverse process and consisted of a defined head, neck, and tubercle with or without a body. If no "body" was present the rudimentary rib did not project beyond the transverse process of the vertebra and had no clinical importance, but in the more fully developed cases it extended forwards and outwards into the posterior triangle terminating in a free end or joining the first dorsal rib, the first costal cartilage, or the sternum. Posteriorly this rib articulated in the usual manner with the body and transverse process of the seventh cervical vertebra. When it terminated in a free end it was bony throughout; to the first dorsal rib it might be united by fibrous tissue or by a joint with articular cartilage and a synovial membrane; junction with the sternum was by cartilage which united with the first dorsal cartilage. The first dorsal rib often bore a well-defined bony tubercle with which was articulated the distal end of its cervical companion. Between the cervical and the first dorsal ribs there was usually an external and sometimes an internal intercostal muscle, while in well-developed cases the anterior and posterior scalene muscles might be attached wholly or in part to the anterior end of the abnormal bone which then presented a groove between the insertion of the two muscles on which rested the subclavian artery and the lower cords of the brachial plexus. Clinically the supernumerary rib became of importance when it attained a size sufficient to project well into the posterior triangle of the neck, producing symptoms either as a deformity or as a source of pressure upon the subclavian artery or the brachial plexus. It was of interest to note that such complications were generally met with in young women and on the right side of the neck. Of four cases which he had seen all were women, the ages being 19, 21, 22, and 53 years, and the last having had symptoms for many years. In two of these the deformity and symptoms of pain, and so on, were present on the right side only, in a third they were much more marked on the right side, and in the fourth although the deformity was detected only on the left side subjective symptoms were equally present on both. This selection of age and sex, although noted by others with regard to clinical symptoms, did not appear to govern the distribution of cases among dissecting-room specimens and was not quite readily explained. The age at which symptoms appeared was probably determined by the completion of skeletal growth and the presence of deformity might be more readily noted in the female, but there was no apparent reason why the latter should suffer more from pressure symptoms, or why these symptoms should select the right side of the body. Four cases were then given in detail; in the first two, except for some subjective sensation of numbness and tingling, no symptoms were present. In the remaining two cases there were paralysis of the intrinsic muscle of the hand, pain, and some sensory loss in the territory of the first dorsal root. With regard to the motor troubles, it was especially to be noted that paralysis was most marked in the muscles of the thumb and diminished inwards to the little finger. Spasm, on the other hand, was more marked on the ulnar side of the hand and was absent on the radial side. As in other lesions of the brachial plexus, atrophy was great and, when contrasted with ordinary lesions of peripheral nerves, out of proportion to the amount of paralysis. In Case 3 there appeared to be some weakness of the flexors of the fingers and possibly also atrophy of the flexor carpi ulnaris. In Case 4 there was spasm of the long flexors of the fingers and especially of the inner or ulnar portions. It was tolerably certain that the pressure upon the brachial plexus impinged upon its lower trunk, which was derived from the lower cord, and again from the eighth cervical and first dorsal roots; and it was also probable that the fibres derived from the first dorsal root were lowest and in closest proximity to the bone, so that the clinical results would be similar to those of an affection of that root alone, although the eighth cervical might also be involved. He then referred to some cases of uniradicular paralysis published by Farquhar Buzzard and Edwin Bramwell, in none of which was the pathology fully explained and in none of which did the possible presence of a cervical rib appear to have been excluded. The diagnosis was simple if the condition was borne in mind and a radiogram furnished convincing evidence. With regard to treatment, removal of the rib was advocated and was carried out without difficulty or danger to the patient.—Mr.

C. R. B. KEETLEY said that he had had under observation for some time a woman who first noticed pain in the right arm 15 years ago. The pain was referred to the outer side of the arm. There was marked pulsation above the clavicle and the pulses were different on the two sides. He believed that a seventh cervical rib was present in this case. The condition was frequently present and gave rise to no symptoms, but in some cases gangrene and thrombosis were reported to have resulted from the condition.—Mr. A. CARLESS said that the pushing forward of the artery had not infrequently given rise to the diagnosis of subclavian aneurysm in these cases and he mentioned the case of a soldier in whom this diagnosis had been made.—Dr. E. FARQUHAR BUZZARD said that the cases of uniradicular brachial plexus palsy which he had described and which Mr. Thorburn had referred to as being possibly similar to his own were not of the same origin, for the following reasons: (1) Some had been due to a lesion of the fifth cervical root, some to lesions of the first dorsal root, and one case had presented the symptoms of both these lesions; (2) in three cases the onset was acute, the atrophy rapid, and the pain present only at the beginning; (3) herpes had been a prominent feature of one of the fifth cervical cases; and (4) the sensory loss in all his cases had been dissociative in character, unaccompanied by numbness, and typical of a single root lesion in its distribution.—Dr. J. PURVES STEWART pointed out that although the symptoms in these cases were commonly unilateral yet the seventh cervical rib was often present on both sides. This might possibly be explained by the greater use of the right arm. He suggested that the mere anatomical defect did not account for the symptoms and other factors must be present to produce them.—Mr. THORBURN replied.

Dr. G. NEWTON PITT read an account of two cases of Fungating Endocarditis followed by convalescence. The first case was that of a boy, aged 13 years, who developed chorea on May 13th, 1903. A week later an apical bruit was detected and later there was albumin in his urine, while headache and vomiting developed. It was then noticed that he had an extensor plantar reflex on the right side. The bruit became louder and rigors developed; a large amount of albumin was now found in the urine. Six days after the extensor plantar reflex was noticed he developed right hemiplegia, with complete aphasia and incontinence of urine. The boy became extremely drowsy and was very emaciated. The general condition of the boy during June and July deteriorated, so that it seemed almost certain that he would die. He was extremely anæmic but improved rapidly when injections of antistreptococcic serum were given on alternate days for six weeks. The boy recovered in the most remarkable manner. His speech returned, together with power in his right side, and he gradually regained his strength, going home in October the picture of health. At the present time the boy was well and earning his living. The second case was that of a boy, aged 11 years, who was admitted with a right apical pneumonia which cleared up in five days. A fortnight later his temperature was slightly raised and a systolic blowing bruit developed in the left fifth space. It gradually became louder and the boy's temperature oscillated up to 100° F. for a month, when it became normal. Injections of Pané's antipneumococcic serum were given and the boy left the hospital in perfect health and remained so when last heard of. Some months later the bruit was still audible. That some cases of malignant endocarditis ran a course of some months was well known but there were a comparatively few cases on record in which the patients had regained their health. In both the present instances the boys enjoyed perfect health, although the valves had been permanently damaged. The beneficial effects of the antistreptococcic serum were very striking and there could be no question that recovery was due to its use.—The PRESIDENT raised the question as to the origin of these cases. He thought that in all cases of malignant endocarditis there was some further infection added to the primary rheumatic infection—sometimes pneumonia, sometimes typhoid fever or "drain poisoning." He considered that the benefit which these two patients had derived from the injection of antistreptococcic serum was against the view that Dr. Newton Pitt had taken—viz., that the endocarditis was due to the rheumatic poison.—Dr. F. J. POYNTON discussed the question whether malignant endocarditis was due to the same infection as rheumatic fever. He said that he considered that evidence had been brought forward which proved almost conclusively that the two were identical. He thought that there was no sharp line of demarcation between simple and malignant endocarditis, but that they merged gradually into one another.—Dr. W. EWART said that previously to the work of Dr. Poynton he had regarded the cause of simple and malignant endocarditis as distinct. He referred to a case of malignant endocarditis following puerperal infection.—Dr. J. F. H. BROADBENT suggested that in the less acute cases of malignant endocarditis a considerable amount of benefit might be obtained by raising the protective power of the blood by the use of a "vaccine" of sterilised cultures of the organism obtained from the blood.—Dr. NEWTON PITT referred to the fact that the organism of rheumatic fever produced formic acid, whereas the other streptococci did not form this acid.

OBSTETRICAL SOCIETY OF LONDON.

Cancer of the Cervix complicating Labour.—Exhibition of Specimens.

A MEETING of this society was held on Nov. 2nd, Dr. EDWARD MALINS, the President, being in the chair.

Dr. HERBERT R. SPENCER gave an account of three cases of Cancer of the Cervix complicating Labour in Advanced Pregnancy which were delivered through the natural passages and treated by high amputation of the cervix during the puerperium or (in one case) five months after delivery. The patients remained well and free from recurrence 11, eight and a half, and eight years after the high amputation. The children were born alive and one survived; one of the patients had since been delivered by Cæsarean section of a child who also survived. Dr. Spencer had only been able to find two other cases in which the patients operated on for cancer complicating labour in advanced pregnancy had remained well for five years—viz., Olshausen's (six and a half years) and von Ott's (eight and a half years). The five cases were all delivered through the natural passages and were operated on within a short period after delivery. Dr. Spencer also gave short notes of three cases of cancer of the cervix complicating labour in advanced pregnancy in which the disease was too extensive for radical treatment. Two were delivered through the natural passages and one by Porro's operation (with the serre-nœud). All three cases recovered and the children were born alive. The opinion held by Pinard, Bouilly, and others that these cases were hopeless, that the end of pregnancy should be awaited, and the interests of the child only considered was shown to be erroneous. In Dr. Spencer's opinion labour should be induced by de Ribes's bag if the pregnancy was some weeks short of term and treatment should have in view the cure as well as the safe delivery of the patient. In the light of their present knowledge the following were the main points to be attended to. 1. Great care should be taken by the use of antiseptic solutions, uncontaminated instruments, and the cautery to prevent local implantation of cancer cells. 2. In operable cases delivery should be effected *per vias naturales* when practicable, followed during the puerperium by the high amputation of the cervix with the galvano-cautery and in certain cases by the removal of the body immediately afterwards. 3. In operable cases in which the cervix would not dilate Dr. Spencer suggests (*a*) the removal of the cervix with the galvano-cautery, followed by the delivery of the child and the removal of the body either by the vagina or by the abdomen, as being probably preferable to (*b*) the removal of the child by Cæsarean section and of the uterus by the vagina (Olshausen), and (*c*) the removal of the child and body by the abdomen and of the cervix by the vagina (Fehling). 4. For operable cases in which the cancer had extended outside the cervix cauterisation of the growth followed by abdominal hysterectomy. 5. For cases too far advanced for radical operation Porro's operation with the use of the serre-nœud.—Dr. THOMAS WILSON congratulated Dr. Spencer on the extremely satisfactory lasting result of his operations in these three cases but stated his opinion that the best method of operation for cases of this sort had not yet been determined. When the best method, whether abdominal or vaginal, in cases of uncomplicated cervical cancer had been determined then it would be possible to apply a similar operation to cases occurring in connexion with pregnancy. Dr. Wilson referred to two cases in which he had recently

performed the so-called vaginal Cæsarean section in the eighth month of pregnancy with immediate results favourable to both mothers and both children. He discussed the reasons which led him to adopt the vaginal operation in these cases and described the proceeding which he found not difficult. Referring to Dr. Spencer's recommendation that in the last months of pregnancy labour should be induced and a radical operation only undertaken later Dr. Wilson remarked upon the usual influence of pregnancy in hastening the growth of cancer and referred to a case where abortion took place at the fourth month in a patient, aged 24 years; cancer of the vaginal portion of the cervix which was present appeared before the abortion to be easily operable but afterwards made rapid progress, so that on the seventeenth day supravaginal amputation did not suffice to eradicate the mischief. In all operable cases therefore at whatever month of pregnancy they might be recognised immediate radical operation should be undertaken. Whether this operation should be vaginal or abdominal the next ten years might be expected to show.—Dr. G. E. HERMAN expressed his appreciation of Dr. Spencer's able paper. He thought the general rule of treatment in all forms of cancer—viz., to remove it as soon as possible—applied to cancer of the cervix in the later months of pregnancy. He considered that vaginal hysterectomy immediately after delivery should be easy because the vagina was then so relaxed that the uterus could easily be pulled down to the vulva. He could not agree with Dr. Spencer in advising Porro's operation with the serre-nœud where delivery through the natural passages was impossible. He had only once performed Cæsarean section for cancer. He sewed up the uterus in the usual way and the patient recovered.—Dr. AMAND ROUTH thought that conservative Cæsarean section was the correct treatment in inoperable cases and gave details of one case where the woman recovered but died in three months, a healthy child surviving. —Dr. M. HANDFIELD-JONES, Dr. BRIGGS, and Dr. W. S. A. GRIFFITH expressed the opinion that in Dr. Spencer's three successful cases the cancers being all of the squamous-celled variety were of the less virulent type of disease and that the fact of non-recurrence after a lapse of years depended more on the type of the disease than on any detail of treatment.—Dr. W. W. H. TATE, Dr. HEYWOOD SMITH, Mrs. BOYD, and Dr. CUTHBERT H. J. LOCKYER also took part in the discussion.—Dr. SPENCER, in reply, said that his objection to vaginal Cæsarean section was due to risk of local inflammation. The growth of cancer in pregnancy was sometimes rapid but not always; in his own case it was very slow. He believed that the old Porro operation with the serre-nœud was safer than the conservative operation.

Dr. J. H. DAUBER showed a Double Symmetrical Cystoma of unusual origin and connexions which, on the motion of Dr. C. J. CULLINGWORTH, was referred to the pathological committee.

Dr. TATE showed a Dermoid Cyst of the Ovary removed by abdominal section. It contained several beautifully formed teeth. The cyst, which at the time of removal was as large as a fœtal head, had been the source of obstruction during labour five years previously, and had been associated with subsequent attacks of abdominal pain.

Mrs. BOYD showed the Uterus removed by Abdominal Panhysterectomy from a patient, aged 40 years, who was the subject of squamous carcinoma of the cervix of the uterus. She and her colleague at the New Hospital for Women had, contrary to what had hitherto been the more general practice, followed the plan of operating by the abdominal method in all cases of cancer of the body of the uterus and in most cases of cancer of the cervix. They had now had in all 21 cases without a death, so that she claimed that the patient was not exposed to any more risk by adopting this method than by removal through the vagina.

Mrs. BOYD also showed a Fibroid of the Broad Ligament removed from a patient 63 years of age who had had copious hæmorrhages and increase in size of the growth for five months. The uterus was enlarged and was removed by panhysterectomy. Its walls were thick and fibroid and the cavity was occupied by a tongue-shaped polypus, consisting of fibrin attached to an adenomatous base. The section showed a benign adenoma. The section of the fibroid showed ordinary fibroid structure.

Dr. LOCKYER showed a Carcinoma of the Ovary of Unusual Type. The growth resembled in its structure the columnar cancer so common in the rectum and as bowel symptoms had existed in this case for 15 months it seemed highly probable that the solid mass in the hilum of the left ovary was secondary in origin to carcinoma in the rectum.

Dr. SPENCER showed a new Galvano-cautery which he had used many times for amputation of the cervix and for hysterectomy. The handle itself formed an insulator and the whole instrument could be easily sterilised by boiling.

LIVERPOOL MEDICAL INSTITUTION.

Exhibition of Cases and Specimens.—Fractured Femur in a Hæmophilic.—Distribution of Phthisis and Cancer.

A MEETING of this society was held on Nov. 3rd, Dr. JAMES BARR, the President, being in the chair.

Dr. K. A. GROSSMANN demonstrated a case of Double Congenital Anophthalmos in an otherwise well-developed child, eight months old. The lids were well formed though only half an inch in length, and the conjunctival sac was a narrow funnel barely half an inch deep. In the inner half of the right lower lid a bluish subcutaneous cyst, about half an inch in diameter, was very conspicuous, a so-called coloboma cyst. No trace of a rudimentary eyeball was to be felt or seen. This was the third case of the same nature shown by Dr. Grossmann before the institution within the last four years.

Dr. R. STENHOUSE WILLIAMS exhibited an Inhaler for the Administration of Ethyl Chloride. The apparatus was so constructed that the bottle containing the ethyl chloride was held in position over a tube with a stop-tap which passed directly into the bag of a Clover's inhaler. By this means as much ethyl chloride as was required was sprayed into the bag and then the tap was turned off; the administration might thus be continued indefinitely.

Mr. G. P. NEWBOLT showed a male patient, aged 38 years, from whom he had removed a large Colloid Carcinoma of the Cæcum six months previously. The growth had caused no obstruction; it was removed through a transverse abdominal incision, the resulting scar being an excellent one. He also related a case of Intestinal Obstruction occurring in a female aged 53 years, for which he had performed a left inguinal colotomy. There was a marked sigmoid curve and the fæces passed through the lower opening of the colotomy wound. Three months later the carcinomatous growth causing the obstruction and the artificial anus were simultaneously excised. The patient made an excellent recovery.

Mr. K. W. MONSARRAT read an account of a case of Fracture of the Femur in a Hæmophilic. The patient was a boy, aged eight years. At the seat of fracture there was an enormous local effusion which progressively increased up to the fourteenth day and was accompanied by a steady rise of temperature. His personal history indicated hæmophilia and he showed signs of the disease elsewhere during his stay in hospital. Union of the fracture took place early; by the end of the fourth week it was already firm. The local effusion simulated an inflammatory condition and before the personal history was inquired into it was looked upon as probably of this nature.—Mr. D. DOUGLAS-CRAWFORD referred to a case of hæmophilia with effusion into the knee-joint which, on account of the pain and temperature, simulated acute arthritis. He opened the joint and a satisfactory recovery followed.

Dr. HUGH R. JONES read a paper on the Distribution of Phthisis and Cancer in England and Wales. Having pointed out the difference in the age and sex incidence of the two diseases, he drew attention to certain similarities in their history and distribution. It was proved that cancerous persons had a family history of pulmonary tuberculosis greater than obtained in the general population and that a high percentage of phthisical persons had a cancerous family history. The two diseases were more prevalent near the sealine. Cancer areas either overlapped or were contiguous to phthisical areas. In central England both cancer and pulmonary tuberculosis were below the average. The death-rate from pulmonary tuberculosis reached its zenith at the age-period 35-45 years, the period at which the cancer death-rate began to increase. He pointed out the frequency with which arrested pulmonary tuberculosis and obsolete tubercle were found in cancerous persons. He believed that the recorded increase in cancer was in part real and not altogether explained by improved diagnosis, nor by the increased population living at higher age-periods owing to the fall in the general death-rate, which would not affect

the cancer death-rate, but probably due to the fall in the pulmonary tuberculosis death-rate, resulting in members of tuberculous families surviving to the cancer age, such persons being more prone to cancer than the general population.—Dr. WILLIAM CARTER thought that on the question of cancer and pulmonary tuberculosis certain great changes in the national habits might well be considered side by side with statistics. Ever since the Registrar-General's office had been founded, some 70 years ago, a steady advance in the mortality from cancer had been recorded. Within that period, bleeding, which at first was universal, had been totally discarded; the use of mercurial compounds, the greatest of antiseptics, like bleeding, once universal, had been largely abandoned. The consumption of meat per head of the population had probably increased many times over and the people who had lived simple natural outdoor lives had become aggregated in dense masses in towns. It was quite open to consideration whether all these great facts might not be related to each other.—Dr. R. J. M. BUCHANAN recognised the importance of the peculiar fact that in many cases of cancer obsolete tubercle was found post mortem and also the close relationship in family history between tuberculosis and cancer, but he did not consider that the increased death-rate from cancer proved increase of incidence as real, or that it in any way depended upon the lowered death-rate from pulmonary tuberculosis. The prophylaxis exercised against tuberculous infection, by lowering both the incidence and death-rate from pulmonary tuberculosis, had resulted in more persons now living until they reached that period of life in which cancer was recognised as most likely to occur.—Mr. MONSARRAT said that he did not consider that any particular relationship had been established as existing between cancer and pulmonary tuberculosis.—Dr. J. HILL ABRAM thought that the chart of Dr. Jones, illustrating the marked difference between the apparent and the corrected death-rate from cancer, was very important and demonstrated the great care necessary in dealing with figures.

EDINBURGH MEDICO-CHIRURGICAL SOCIETY.

Exhibition of Cases and Specimens.—The Sterilising of Dressings.—Syphilitic Synovitis in Children.—Gout.

THE opening meeting of the present session of this society took place on Nov. 2nd, Professor JOHN CHIENE, the President, being in the chair.

Cases and specimens were shown by Mr. CATHCART, Mr. H. ALEXIS THOMSON, and Mr. A. A. SCOT SKIRVING.

Mr. SKIRVING read a paper on Questions regarding the Sterilising of Dressings. He first referred to the differences of opinion which existed regarding the sterilising value of steam under pressure and not under pressure. He pointed out that steam under pressure was not necessarily superheated since as long as there was some water vapour present the steam had the temperature of water. Bacteriological experiments conducted by himself and by other observers had proved that superheated steam was not so good a sterilising agent as saturated steam at 100° C. Some observers preferred to use this saturated steam at ordinary atmospheric pressure, others to use it under pressure of two or three atmospheres. The presence of air in sterilisers was a serious drawback for the reasons that it was a bad germ killer and a bad conductor of heat. Mr. Skirving next referred to the drums in general use and pointed out that these were unnecessarily complex in structure and so apt to get out of order. The dressings also were frequently packed far too tightly to allow the steam to penetrate to the centre. He next described a new form of drum which he had devised. It consisted of an inner framework of wire and an outer metal box in which there was only one set of holes (at the top). The cover fitted tightly and was kept loose while sterilising. The drum was placed upside down in the steriliser so that the steam entered from below, since it had been shown that this gave a better result than allowing it to enter from above. He concluded by advocating the advisability of testing the steriliser bacteriologically at regular intervals to insure that it was doing its work efficiently.—The paper was discussed by Mr. CATHCART, Mr. F. M. CAIRD, Mr. C. W. MACGILLIVRAY, and by Dr. H. HARVEY LITTLEJOHN.

Dr. G. H. MELVILLE DUNLOP read a paper on Syphilitic Synovitis in Children. This condition had hitherto been regarded as one of extreme rarity, but it was much more common than was generally supposed. Statistics showed that 70 per cent. of all diseased joints in children were due to syphilis. Many of these were probably regarded as tuberculous and treated as such, much to the detriment of the child, as the fixed joints resulting from this mistaken treatment were very undesirable. Such fixation of joints would be entirely avoided if the proper treatment were adopted from the first. There were two varieties recognised. The first occurred very rapidly and generally during the first three months of life. It consisted in a degenerative change in the epiphyseal cartilage, thickening of the periosteum, and effusion into the joints. The elbows, knees, and wrists were the joints most commonly affected and the condition was usually symmetrical. There were symptoms of inflammation, the limb hanging helpless, and the epiphyses became detached. Recovery was rapid under mercurial treatment and the epephyses reunited. There would be shortening of the limb if the cartilage be much destroyed. The second variety constituted true chronic syphilitic synovitis. This generally occurred between the ages of eight and 15 years. It was usually quite painless and thus it was somewhat difficult to discover when the effusion began. It was most common in the knee-joints and was symmetrical. One joint as a rule was affected first and at an interval varying from a month to two years the other became affected. The swelling was principally due to synovial effusion. There were no bony enlargement, no pain, and no creaking, and the movements were quite free. The only symptom complained of was some stiffness in the joint. It was generally associated with other syphilitic symptoms, the most common being interstitial keratitis which occurred in 75 per cent. of the cases and frequently preceded the synovitis. There was indeed a close similarity between these two conditions, synovitis and keratitis. Both were practically painless, insidious in onset, symmetrical, and both almost invariably were completely recovered from. Other syphilitic manifestations that might be present were Hutchinson's teeth, nodes on the bones, and deafness. The condition was essentially a gummatous affection of the synovial membrane. It was sometimes difficult to distinguish it from tuberculous synovitis but the treatment generally cleared matters up, though a mixed infection might be present. Rest and splints had practically no effect on this form of synovitis and the best results were obtained by administering mercury and potassium iodide rather than mercury alone.—The paper was discussed by Dr. J. CARMICHAEL, Dr. NORMAN WALKER, and Mr. D. WALLACE.

Dr. D. CHALMERS WATSON read a paper entitled "Gout, our Present Position with regard to its Etiology." He pointed out that Garrod's teaching as to uric acid being the primary factor in the disease had of late years been questioned by clinicians. His own investigations had led him to abandon the view as to uric acid being an important etiological factor, the steps leading to this being, shortly, as follows. *A. Chemical.*—(1) Uric acid was found in the blood in a number of diseases having no known relation to gout—e.g., leucocythæmia; and (2) an analysis of the urine in acute gout showed no disturbance of uric acid excretion before, during, or after the paroxysm. *B. Histological.*—The histological appearances observed in (1) gout in lower animals and (2) chronic gout in man did not support the "uric acid theory" but rather suggested an infective condition. *C. Clinical.*—A study of the clinical features of an acute attack—the manner of onset, the temperature record, and the changes in the blood indicating disturbance of the marrow function—suggested the operations of an infective agent. The general conclusions he had come to were that uric acid was not an important factor in the production of gout and that there was an infective element in the disease. The uric acid was the feature that gave the inflammation its specific character. According to this view the source of the infection was the alimentary canal and an injudicious dietary acted mainly in virtue of its influence on the bacteria normally present in the digestive tract. He concluded by suggesting that in future investigations on the subject attention should be paid to the influence of certain diets on the digestive fluids and that some of the classical experiments on gout should be repeated with the aid of skilled bacteriological methods.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Oct. 27th, Dr. A. J. Hall, the President, being in the chair.—Mr. R. J. Pye-Smith showed: 1. A large Gall-stone removed on Sept. 6th from the common duct of a woman, aged 50 years, where

it had become impacted subsequently to the removal two and a half years before of 36 stones from the gall-bladder which was suppurating. The duct was sewed, a gauze drain being left in contact with it. No bile escaped and the case did well. 2. Eight faceted Gall-stones removed on Sept. 7th from the common and hepatic ducts of a man, aged 46 years, who had had severe jaundice for nine months. Six of the calculi were at the lower end of the common duct and two were in the hepatic duct. They were all extracted by an opening at the level of the top of the duodenum. The duct could not be sutured easily and was drained through a stab wound which closed in a month. The patient did well but was not yet quite free from jaundice. 3. A spiked Mulberry Calculus, weighing 670 grains, removed on Sept. 20th by suprapubic lithotomy from a man, aged 28 years. 4. A small Sequestrum of Bone, about one-tenth of an inch in diameter, and a Silkworm-gut Suture, both of which were encapsuled in firm scar tissue, removed on Oct. 18th from the end of the stump of the forearm of a man, aged 36 years, who had been shot in the hand two years previously. Immediate amputation had been performed and the wound healed in six months, after two small pieces had come away. The stump continued to be painful and tender though the skin was in good condition. Two tender spots were found over two small hard lumps. After their excision the pain and tenderness disappeared.—Dr. Sinclair White showed: (1) a girl, aged seven years, with Congenital Double Dislocation of the Hip on whom he proposed to operate by the open method; (2) a man, aged 25 years, whose right upper extremity had been removed for a Round-celled Sarcoma of the upper arm by Berger's interscapulo-thoracic amputation (the patient had made a rapid recovery); and (3) a man, aged 46 years, whose right scapula had been removed in March, 1900, for Sarcoma. There had been no recurrence of the growth. He had a very useful arm but was unable to elevate the upper arm beyond an angle of 45°. In a more recent case still better movements had been obtained by uniting the trapezius and levator anguli scapulæ to the deltoid and the serratus magnus to the rhomboid muscles.—Mr. R. Favell showed: 1. A specimen of an Unruptured Tubal Gestation, together with an Adherent Vermiform Appendix. The patient was a married woman, 32 years of age. She had been married five years and had never been pregnant; the menses were regular, lasting four days. The last period occurred in the first week in April. In the second week in May she began to have a coloured discharge, accompanied with frequent attacks of pain. By the vagina a tense cystic swelling was felt in the right lateral fornix, the uterus being pushed to the left. Abdominal section was performed on July 1st, three months after the last period. The right tube was greatly distended with organised blood clot, the embryo being found in the upper part of the tube. The tube was intimately adherent to the parietal and pelvic peritoneum. The vermiform appendix was inflamed and much thickened, being intimately adherent in its whole length to the tube. This was removed with the tube. 2. A Dermoid Cyst of the Ovary adherent to the Vermiform Appendix. The patient was 32 years of age and had had two children, the youngest being eight years old. She had noticed swelling in the abdomen for 12 months. Six weeks before operation she was seized suddenly with acute pain in the hypogastrium where a tumour could be felt rising two and a half inches above the pubes. Per vaginam the tumour was found to lie in front of the uterus and was evidently adherent. On abdominal section the dermoid was found to be adherent intimately to the parietal peritoneum, to the uterus, to the small intestine, and to the vermiform appendix. The patient made a good recovery.—Dr. D. Burgess showed a case of Intention Tremor in a Child.—Dr. D. Gray Newton read notes of a case of Gall-stone producing Acute Intestinal Obstruction, which was successfully removed by Abdominal Section, and showed the specimen. The stone weighed 2 drachms 6 grains and measured in the long circumference three and a quarter inches and in the short circumference three inches.—The President showed: (1) a case of Aphasia; (2) a case of Spinal Progressive Muscular Atrophy; and (3) a case of Multiple Nævi of the Face.

GLASGOW MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 4th, Dr. D. Newman, the President, being in the chair.—The President described: 1. A case of Acute Hydronephrosis from Torsion of the Ureter by Displacement of a Left Moveable Kidney; there was reflex inhibition of function of the right kidney for nine days. The symptoms of moveable kidney were those usually met with till Oct. 10th, 1904, when severe pain started in the renal region, associated with swelling, complete suppression of urine, but not accompanied by any uræmic symptoms. Under observation no urine was passed and when the catheter was introduced the bladder was found to be empty. On the 19th excretion of urine was re-established, pain in the lumbar region was increased, and the swelling more pronounced. The hydronephrosis was incised. Recovery was complete and urine was excreted by both organs. 2. A case of Tuberculous Disease of the Bladder and Prostate. The right ureter was inserted into the anterior wall of the bladder and in its orifice a small calculus was impacted. The mucous membrane at the orifice of the ureter was ballooned and partly covered the calculus from view. A caseous mass was removed from the prostate; tuberculous ulcers at the base of the bladder were curetted and the stone was removed from the ureter. Tubercle bacilli disappeared from the urine, the bladder wound healed in three weeks, and the bladder could now retain over ten ounces. 3. A case of Moveable Kidney with onset of symptoms characterised by marked respiratory disturbance resembling angina in some respects but only present when the kidney was displaced.—Professor McCall Anderson showed a boy, aged eight years, who had been treated with Tuberculin for Tuberculous Peritonitis. The patient was admitted to the Western Infirmary, Glasgow, on July 4th, 1904. He presented the usual symptoms of tuberculous peritonitis. The first injection of tuberculin, 0·25 cubic centimetre of 1 in 1000, was administered on July 9th and on the following day there was a marked reaction. By Oct. 8th he had 22 injections, the last being 1·5 cubic centimetres of 1 in 10. The boy was now exceedingly well and had gained six pounds in weight during the treatment.—Professor Anderson also described a case of Addison's Disease treated with tuberculin. The patient was a woman, 31 years of age. She was admitted to the Western Infirmary, Glasgow, on May 25th, 1904, presenting the characteristic appearances of Addison's disease. She had eight injections of tuberculin, the first on May 25th, 0·5 cubic centimetre of 1 in 1000, and the last on July 4th, one cubic centimetre of 1 in 1000. On July 12th her colour was good and she looked well and strong and insisted on going home.—Dr. J. Lindsay Steven read notes on a fatal case of Acute Pneumococcic Pleurisy in which the symptoms closely resembled those of acute lobar pneumonia. The patient was a strong young man, aged 27 years. He was first seen on Sept. 13th suffering from severe pain on the right side of a few hours' duration. He had been out of sorts for two days before the onset of the pain. He had a dry cough and the temperature was 102° F. On the 14th the pains continued to be severe. The percussion note was deficient in resonance behind and the respiratory murmur was tubular over the whole of the right lower lobe. There was a frequent dry cough and the patient was often restless. The temperature ranged from 101° to 102·5°. He took liquid nourishment freely. The symptoms continued till the 17th without any marked change excepting that dulness became more distinct behind. The pulse continued about 100, strong and regular; the respirations were from 30 to 35, and the temperature was from 101° to 103°. Pain was less complained of. On the morning of the 18th he became suddenly worse. His pulse was 140, the respirations were 50, and the temperature was 104·5°. He was unconscious, restless, and at times wildly excited. One pint of turbid serous fluid was withdrawn from the right pleural cavity. Auscultation over the cardiac area revealed well-marked pericardial friction sounds. He became weaker, refused nourishment, his temperature rose to 107° at 5.30 P.M., and he died at 7.30 P.M.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—The opening meeting of the session of this society was held on Oct. 25th, Dr. J. K. Kelly, the President, being in the chair.—Dr. Kelly gave his presidential address on Extra-uterine Pregnancy. As introduction the President said he spoke from the experience of having had about 100 cases under his care; he preferred the word "extra-uterine" to that of "ectopic," as it better described a pregnancy situated outside the uterus, the various forms of placenta prævia and interstitial pregnancy coming under the classification of "ectopic." An extra-uterine pregnancy might be

defined as a pregnancy which resulted from the settlement of the pregnant ovum elsewhere than in the endometrium. The causation of extra-uterine pregnancy was still theoretical; the consideration of normal pregnancy led them to suppose that for the union of germ and sperm in the tube a healthy mucous membrane was necessary. The fluid in the tube kept in motion by the cilia caused the germ to pass down the tube and the sperm to pass up, the action of the latter being likened to a trout swimming more easily against the stream. On microscopic examination of many cases the tube wall had been found to be healthy, thus exploding the old theory of desquamative salpingitis as being a cause. The true cause seemed to lie in the stage of pregnancy at which the ovum was when it became attached to the maternal structures. This attachment depended on obstructions in the tube, such as tortuosities and slowness of ciliary stream. Some authorities considered extra-uterine pregnancy as a reversion to an earlier type. The presence of a true decidua in the tube still remained to be investigated further, but decidual cells were evident. In discussing the question of interruption of tubal pregnancy the President was of the opinion that the mere thinning out of the wall of the tube and the distension were not sufficient cause, but that it lay in the corrosive action of the syncytium upon the tubal tissues, the so-called rupture being a perforation. In the case of tubal abortion the chorionic villi had formed a placenta, the syncytium had eaten into the walls of the blood-vessels of the ovum and thus formed a hæmorrhagic mole. This mole acted as a foreign body and so became expelled from the tube. In perforation of the tube wall the vessels on the peritoneal surface became eroded and frequent attacks of hæmorrhage occurred owing to the continued activity of the syncytium present in the site of the ovum. Thus it was seen that the hæmorrhage of early rupture might be more alarming than that of later, owing to this peculiar corrosive action of the syncytium. With regard to the treatment of extra-uterine pregnancy there was no means of prevention. It was more common among the hard-working classes and those of a degenerate species. The question divided itself into two periods, one before and one after rupture. If a patient was examined having signs of pregnancy present, an enlarged soft uterus with a pulsating tumour in one or other side of the pelvis, she should be looked upon as a probable case of extra-uterine pregnancy. If examined before rupture removal was indicated as her life was in great danger; if after rupture much depended upon the condition present. If the hæmorrhage had been slight, if the pain had abated and the general strength improved, the expectant treatment was indicated. But if the signs of internal hæmorrhage were present, or even if gradual increase in the tumour was felt, operation was necessary. The abdominal was more satisfactory than the vaginal route.

BRIGHTON AND SUSSEX MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on Nov. 3rd, Mr. G. Morgan, the President, being in the chair.—Dr. J. W. Pugh showed two cases of Inoperable Cancer of the Breast which he had been treating with the x rays for 12 months. In both cases there had been relief of pain and in one the growth had become distinctly smaller. He remarked on the difficulty of gauging the dose of the rays to destroy the cancerous without damaging the healthy tissues.—Dr. W. C. Chaffey showed a child, aged four years, with Double Optic Neuritis and Paralysis of the Right External Rectus, who suffered from slight headache and occasional vomiting. There was a strong phthisical family history, and the diagnosis was a tuberculous tumour.—Dr. E. Hobhouse showed a child, aged two years, with Duchenne's Paralysis of the shoulder and arm muscles on the right side which, the mother stated, had come on suddenly three months before without the child being obviously ill.—Dr. Hobhouse also showed a man with a large Aneurysm of the first part of the arch of the aorta, obstructing the superior vena cava and causing marked enlargement of the veins of the upper part of the chest and the neck.—Dr. Walter Broadbent showed a man with Aneurysm of the second part of the arch of the aorta which compressed the trachea to such an extent that there were marked dyspnœa and stridor if the man walked rapidly across the room. The left vocal cord was paralysed and the left pulse was almost obliterated. He also showed a child, aged four years, with Friedreich's Ataxy. The child had been well up to a little over two years of age, when he had some convulsions, to which the mother attributed the onset of the disease. The child had since then gradually lost the ability to walk and his speech had become slow and explosive in character. He now had double pes cavus, with dorsal flexion of the great toes, lateral curvature of the spine, marked incoördination of the feet, very slight of the hands; there was no anæsthesia; the knee-jerks were absent; and there was no nystagmus or tremors.—Dr. F. G. Bushnell showed an interesting Heart taken from a case of Morbus Cœruleus in which the patient had lived to the age of six months. The aorta and pulmonary artery arose from a large trunk which took origin from a large right ventricle. The cavity of the left ventricle would not hold a pea; the mitral valves were minute. The pulmonary veins opened into the left auricle and the blood from this passed through a patent foramen ovale into the right auricle.—Dr. Bushnell also showed a Heart from a man who had died from Angina Pectoris. The coronary arteries were calcified and their origins from the aorta were almost obliterated.—Mr. J. Turton moved the adoption of a report of a subcommittee which recommended the forming of a medical benevolent society for Sussex by which only subscribers were to benefit. 125 members of the medical profession having signified their willingness to join the society was founded and Mr. Turton was nominated as its President.

WINDSOR AND DISTRICT MEDICAL SOCIETY.—The annual general meeting of this society took place at the Guildhall, Windsor, on Oct. 26th, Mr. W. B. Holderness, the President, being in the chair. At the conclusion of the proceedings, which included the annual report on the progress of the society, the adoption of the balance-sheet, and the election of officers for the ensuing session, the first ordinary meeting of the session was held, when Mr. W. McAdam Eccles read a paper on the Selection of Cases of Inguinal Hernia for Operative Treatment. He considered that nearly all cases of simple irreducible herniæ, of strangulated herniæ, and of obstructed herniæ should be submitted to herniotomy unless there were decided contra-indications in the way of general, or rather visceral, disease. It was in reference to reducible inguinal herniæ that considerable difference of opinion existed as to which case should be treated by operation and which submitted to truss pressure. He stated his belief that almost all instances of inguinal protrusions in young subjects, male and female, were of congenital origin, but that it needed some acquired force to create an increased intra-abdominal pressure to cause the intestine to protrude into the patent peritoneal pouch. Improper diet was a common factor in increasing the tension. Hence in infants the treatment should be a proper adjustment of diet, the application of a truss, and in the male circumcision if necessary. Phimosis might be a predisposing cause of a hernial protrusion but circumcision alone would not cure it. If there was evidence of any descent after wearing a truss for a few years, other things being satisfactory, a radical operation was strongly indicated. In young adults operation was advisable where there was a history of hernia in early life but no family history of such protrusions, where the muscular development was good, where the patient had an occupation which necessitated considerable strain, and where the general health was unimpaired. In girls a radical operation was especially satisfactory and peculiarly desirable on account of possible future pregnancy. A radical operation might also be indicated by the sufferer wishing to insure for a life or accident policy or to enter one of the public services. The age limit for operation upon an inguinal hernia depended not so much upon actual age as upon the general condition of the tissues. Mr. Eccles concluded by giving a lantern demonstration illustrating the composition, selection, and adjustment of inguinal trusses.—The annual dinner of the society was held after the meeting at the White Hart Hotel, the President being in the chair. There was a good attendance of members.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A general meeting of this society was held at Hanover-square on Oct. 27th, Dr. Alfred F. Street (Westgate-on-Sea), the President, being in the chair.—Mr. W. Bowen Davies (Llandrindod Wells), the President-elect, having been introduced, gave an address on the Spa Treatment of Arthritis Deformans. In the course of his remarks he said that he had chosen the term "arthritis deformans" in preference to "rheumatoid arthritis" or "rheumatic gout" and gave the result of

his experience from the observations of more than 1000 cases. He had seen few patients who had not at one time or another taken the drugs and used the diet that would be suitable in rheumatism or gout, such as colchicum or the salicylates, or used a low diet free from meat and alcohol, all of which treatment he considered decidedly detrimental to anyone suffering from "arthritis deformans" and could not be otherwise than harmful. He had never quite satisfied himself why this disease was practically confined to the female sex, but there was no doubt that it was very common about the menopause and that it was influenced greatly by uterine and ovarian disturbance. Again, mental shock was a very common cause of the onset of this disease. Any acute disease, not necessarily rheumatic fever, was sometimes followed by it and influenza seemed specially to cause it. A nourishing diet, unlimited milk, at least a quarter of a pound of fresh butter daily, and lightly done eggs would always do good. Cod-liver oil with extract of malt was always useful. Outdoor exercise in a dry, bracing air was most necessary.

ÆSCULAPIAN SOCIETY.—A meeting of this society was held on Nov. 4th, Mr. D. H. Goodsall, a Vice-President, being in the chair.—Mr. H. E. Simpson showed a man, aged 42 years, who had been steadily losing weight for nine months and who showed no physical sign but absent teeth and some indefinite browning of the skin. Addison's disease in an early stage was thought the likely cause of his diminishing weight.—Dr. David Ross showed a man with Three Ulcers on his Head resulting from injuries received 13 months ago. Each ulcer had some dead bone at the base, at the front edge of the largest, five inches in length, there were bagging of pus and a sinus opening into the lower end of the ulcer. Saline solution had been found to be the best dressing and this was more effective if changed for another now and then.—Dr. B. G. Morison opened a discussion on the Treatment of Carbuncle. He deprecated the use of the knife to carbuncles in the aged, especially in the diabetic, and advocated a thick pad of ointment composed of creasote, resin ointment, and lanoline, which might be changed every two hours. In young robust subjects incising a carbuncle did good.—Mr. Goodsall quoted the experience of the late Mr. Luke and that of his follower, Mr. Gowland, of the value of painting a ring from one inch to one and a half inches wide around the margin of a carbuncle of a mixture of non-flexible and the flexible collodion and repeating this daily, encroaching on the carbuncle centrally a little.—Mr. W. Campbell M'Donnell advised injecting the craters with peroxide of hydrogen solution, then spooning the pus layer and injecting glycerine iodoform 10 per cent. into the craters.

ABERDEEN UNIVERSITY ANATOMICAL AND ANTHROPOLOGICAL SOCIETY.—A meeting of this society was held on Nov. 5th, before a large audience, in the Anatomical Department, Professor R. W. Reid, the President, being in the chair.—Miss A. V. Baxter, M.A., read a paper entitled "Observations on, and Classification of, 1500 Finger Prints taken in the Anthropometrical Laboratory." Miss Baxter stated how these finger-prints were made and then classified them into arches, loops, and whorls, after Galton. Several finger-prints and tables were thrown on the screen, showing the relations of the various patterns in different fingers. Their use for purposes of identification was next discussed and how in 60,000 cases recorded in Scotland-yard no fewer than 3642 convictions had been effected by their means within the last year. Recent cases were mentioned of identifying burglars who had left finger marks on drinking glasses and blood-stained finger-marks on window-panes. It was stated that the probability of any two finger-prints being identical was 1 in 64,000,000,000. Racial distinction was shown to form no basis of recognition and statesmen, students, and idiots all gave the same markings. Heredity, however, gave more positive results and the persistence of the pattern was clearly shown to remain throughout life.

ROCHDALE AND DISTRICT MEDICAL SOCIETY.—A meeting of this society was held on Nov. 3rd, when the President, Mr. William Pooley, gave an address on Cancer of the Cervix. He dwelt specially on the differential diagnosis between the various forms of malignant disease and granular erosion, retention cysts, and small fibroids. An account was given of a case in which he had removed the uterus per vaginam for cancer of the cervix with no recurrence after three years.—Mr. S. T. Lord mentioned a case of epithelioma of the cervix in which there was no fœtor.—Dr. J. A. Ashcroft, Dr. W. H. Bateman, Dr. A. B. McMaster, Dr. D. Richmond, Mr. G. W. Malim, and Mr. Wilton Mills also took part in the discussion.

TORQUAY MEDICAL SOCIETY.—The opening meeting of the new session of this society was held on Oct. 28th, when Dr. Alfred L. Galabin delivered a most interesting and practical address on the Treatment of Uterine Myomata, for which he was warmly thanked by an appreciative audience.—Dr. Galabin was afterwards entertained at dinner by the members, Dr. W. W. Stabb, the President being in the chair.

Reviews and Notices of Books.

Elements of General Radiotherapy for Practitioners. By LEOPOLD FREUND, Vienna. Translated by G. H. LANCASHIRE, M.D. Brux., Assistant Physician to the Manchester and Salford Hospital for Skin Diseases. With an Appendix entitled, "Notes on Instrumentation." By CLARENCE WRIGHT. With 107 + 86 illustrations. London: Rebman, Limited. 1904. Pp. 536 + 59. Price 21*s.* net.

THIS book is divided into five parts. The first part deals with the elements of electricity and serves as an introduction to the others. The other parts are devoted to high-frequency currents, x rays, Becquerel rays and radium, and light and heat rays respectively. All are considered from the point of view of their applications to medical treatment. Dr. Freund's name is well known to English students of x-ray work and his book will be acceptable to all those who are interested in the applications of physical methods of treatment to medical practice. In a new subject the information which is gradually being acquired by different investigators has generally to be sought for in the pages of current literature. In that scattered condition it is only available with difficulty and its assemblage in the volume before us represents a vast amount of work on the author's part for which all students of the subject will be grateful. The rapid development of the new therapeutic methods described in this work is very striking. All of them are branches of electro-therapeutics and their study has been rendered possible by the house-to-house distribution of electricity. There is no doubt that therapeutics has already been notably enriched by radiotherapy, although some of the anticipations of enthusiastic workers have been shown by riper experience to be unwarranted.

If we consider the sections of Dr. Freund's work in detail we find that under high-frequency therapeutics he discusses the induction of analgesia, diseases associated with defective metabolism, tuberculosis, nervous diseases, and diseases of the skin and mucous membranes. It is significant to find that 15 pages only are required for the consideration of these subjects, and the opinion expressed by the author, after analysing the reports of numerous other writers, is that high frequency is not of any conspicuous value in any but the last of these sections. In affections of the skin and mucous membranes there is no doubt that the spark and brush discharges of the high-frequency apparatus are a valuable means of treatment. The subject of x-ray treatment receives more ample attention, as it undoubtedly deserves. A considerable amount of space is devoted to affections of the hairy skin, a subject upon which Dr. Freund's experience is of special value by reason of the study which he has devoted to it since his first writings on the subject in 1897 at the commencement of the therapeutic employment of the x rays. In this section, as indeed in all sections of this book, the portions devoted to experimental work (physiological and bacteriological) are among the most valuable. Full practical details are given of the rules to be observed for the

successful treatment of favus, sycosis, alopecia areata, and hypertrichosis. Freund states that the treatment of the last-named condition can be made to yield a satisfactory result but he admits that "under certain circumstances changes in the skin occur which cannot be considered as advantageous to the complexion." We believe that the risk of such untoward consequences is by no means a slight one. The account of rodent ulcer is meagre and unsatisfactory and the same may be said of the paragraphs dealing with the attempts at treating malignant diseases.

The subject of Becquerel rays and radium in therapeutics is still too new for satisfactory description but the account given by the author under this heading is a useful *résumé* of the position of affairs as it was at the end of 1903. Treatment by heat and light rays receives consideration in 155 pages. Except for the use of concentrated arc-light in lupus by Finsen's method it is not easy as yet to estimate the practical importance of light and heat in therapeutics. The employment of light bath cabinets with arc or incandescent lamps will probably be a useful auxiliary in the treatment of rheumatic pains and in some of the conditions of debility and defective nutrition which are the consequences of city life, and they deserve to come into use in Turkish bath establishments. Where copious perspiration is desired the incandescent lamp cabinet is a most efficient apparatus and is an agreeable substitute for the hot chamber of the Turkish bath.

At the close of his work Dr. Freund touches on the possibility of extending the scope of radiotherapy by some means of "sensitising" the tissues with fluorescent drugs administered by the mouth. The general style of the book is to be commended.

Special Report on the Prevalence of Fevers in the Dinajpur District. By LEONARD ROGERS, M.D., M.R.C.P. Lond., F.R.C.S. Eng., Captain, I.M.S. Pp. 21 and Map of the District of Dinajpur.

THE inquiry of which this report is the outcome was ordered by the Government of Bengal on account of the death-rate from "fevers" having risen to over 40 per 1000, a previously unknown maximum. The lines of investigation, which were suggested by the Sanitary Commissioner, were the following. First, lists of those who had died during the previous year in certain areas or villages were to be obtained from the thana books and then the villages were to be visited, the relatives of the deceased sought out and inquiries made from them as to the duration and symptoms of the fatal illness, and a diagnosis to be thus arrived at whenever possible. Secondly, any cases of fever met with were to be examined in order to ascertain their exact nature. The investigation had to be carried out during the latter half of the cold season and the early part of the hot weather, the season of minimal prevalence of fever but a time most favourable for the village inquiry. The circles in which the inquiries were to be made were chosen to illustrate, so far as possible, different conditions. Circles containing 3000 or 4000 inhabitants were taken and a list of the deaths in each village returned as "fever" was obtained from the thana, together with the names of the nearest relatives, who were then collected in the villages and questioned. A regular series of questions were put, supplementary ones being asked whenever necessary. As a rule the answers received were clear and in the majority of the cases a fair history was obtained. It appears from a tabular analysis of 1000 deaths returned as "fever" in the Dinajpur district that nearly one-third of the cases, which includes 90 per cent. of all the deaths in the Dinajpur district, are incorrectly classed as such, while of the two-thirds correctly returned less than half are due to malarial fevers, including chronic fevers. A second table brings out the fact that dysentery and diarrhœa caused 16·3 per cent. of the deaths, and shows the proportions of the different diseases correctly reported under the head of "fever." Thus pneumonia accounted for the largest proportion of deaths—namely, 21·7 per cent.; then came chronic malaria, 18·5 per cent.; thirdly, acute malaria, 13·3 per cent.; and not far behind, pulmonary tuberculosis, no less than 9 per cent.; while bronchitis and enteric fever accounted for the greater part of the remaining cases. With regard to pulmonary tuberculosis, Captain Rogers says we have clear evidence that the disease plays a very important part in the death-rate of Bengal villages as well as of the towns. The disease is specially prevalent in the larger villages possessing more numerous substantial houses with impermeable walls in which the people delight to shut themselves up at night as closely as possible in the cold-weather months. The most striking figures in a table relating to the monthly incidence of disease are those referring to acute malaria. It appears that three-fourths of the fatal cases under this heading occurred in children under ten years of age, indicating that any measure which will appreciably lower the amount of malaria in children will have a most marked effect in reducing the death-rate of the disease. With regard to the seasonal influence of variation in the rainfall, the results of a close study of the monthly rainfall of different districts and of the fever death-rates for the last ten years, have only confirmed the very close relationship between a marked deficiency of the rainfall and a high death-rate from fevers. The explanation of the relationship, as Captain Rogers points out, is simple enough, as when the rains are deficient, and especially when they are so in the latter part of the season, the time during which the country is drying up and in which the innumerable pools suitable for the breeding of mosquitoes are present is prolonged. On the other hand, when the rains are steady and prolonged these low-lying parts are mostly flooded and the mosquito larvæ are carried away.

Thus far the report, under the heading Part I., The Village Inquiry, deals with the detailed infection of the different areas. Part II. treats of the Nature of the Fevers in Dinajpur, their etiology and prophylaxis. First, with regard to the kinds of malaria met with, the commonest variety was the malignant tertian. One case of benign tertian was also met with and during the village inquiry a history of quartan fever was obtained in a number of cases in the circle a few miles to the east of the town of Dinajpur; these quartan cases were usually of a chronic nature, terminating fatally after several months of fever. All the varieties of malaria were met with in the district even in the dry season. The Leishman-Donovan bodies were found in cases of chronic fever and malarial cachexia. Five varieties of anopheles mosquitoes were caught in the houses. That most commonly met with was anopheles fuliginosus. Next came anopheles Rossii, although this variety was only present in large numbers in the houses near the tanks in the centre of the town. The next most frequently met with was anopheles Listoni, and this is probably the most important of all, for the Malaria Commission found it to be associated with a very high prevalence of malaria in the Duars, where it was the most common anopheles met with and the only one which was found to be naturally infected. It has not hitherto been found south of the Jalpaiguri district, so that its presence throughout the most malarious parts of Dinajpur is noteworthy. The other two varieties met with in the houses are of less importance, for they have never yet been found carrying malaria under natural conditions. These are anopheles barbirostris and anopheles sinensis. With regard to the breeding-places of these varieties it may be said that anopheles fuliginosus was met with in the streams and also in weed-grown tanks. Anopheles Rossii was most commonly found in the tanks; anopheles Listoni was

chiefly met with in the sandy river, especially close to the grassy banks, but this species must also have been breeding in the more sluggish streams; the other two varieties were found in the weedy streams. Turning next to the distribution of the anopheles in the district circles, it was found that anopheles fuliginosus was the commonest variety in all parts of the district in the cold season. Anopheles Rossii and anopheles sinensis were seldom found except in the town of Dinajpur and anopheles barbirostris was only occasionally met with. With regard to the malaria-carrying anopheles Listoni, it is worthy of note that it was not met with in the extreme south of the district, this being also the least feverish part, nor could its larvæ be found in the river. On dissecting the anopheles for sporozoits none were found. Captain Rogers is of opinion that the destruction of anopheles in Lower Bengal is impracticable and that other means must be relied on. He very strongly urges the destruction of the parasites during the cycle in the human subject. This can only be done by efficient doses of quinine, so that the problem resolves itself into one of devising a practical scheme of village distribution of quinine. At Mian Mir the administration of quinine regularly as a prophylactic to the children presumably saved nearly the whole of them from malaria, and may have been also effective in preventing the infection of adults. These latter took no quinine whatever but adults are frequently infected by mosquitoes which have first derived the infection from children. Captain Rogers thinks that the village schoolmaster should be the agent for the distribution of quinine, as it would be to his advantage to get his pupils to take quinine whenever they get fever, for he is interested in keeping up the figures of his attendance roll.

Trachoma. By Dr. G. BOLDT. Translated by J. HERBERT PARSONS, D.Sc. Lond., F.R.C.S. Eng., Assistant Ophthalmic Surgeon, University College Hospital, and Curator, Royal London Ophthalmic Hospital; and THOMAS SNOWBALL, M.B., C.M. Aberd. With an Introductory Chapter by E. TREACHER COLLINS, F.R.C.S. Eng., Ophthalmic Surgeon, Charing Cross Hospital. London: Hodder and Stoughton. 1904. Pp. 232. Price 7*s.* 6*d.* net.

WITH the exception of cataract few diseases of the eye possess a more extensive literature than trachoma. Cataract, though of intense interest to the individual who suffers from it, is of small social importance. It occurs chiefly in the aged, it is not communicable, and may at the present time be regarded as fairly under the control of the surgeon. Trachoma, on the other hand, is a disease fraught with danger to the community; it is highly contagious, spreading with rapidity amongst the young who are thrown together in schools, orphanages, and asylums, and also amongst those who, like soldiers and sailors and prisoners, are often placed in circumstances favourable to the spread of any communicable affection; unless noticed at an early stage, it is extremely difficult to eradicate; and, finally, it frequently produces such serious impairment of vision that the patient is only able to undertake rough work and may even be incapacitated altogether. It has sometimes been said that the disease was introduced into Europe on the return of Sir Ralph Abercromby's troops from Egypt in 1804–5, but the nature of that outbreak is not exactly known; its effects were most disastrous, for in 1811 no less than 2317 soldiers were reported to be totally blind. As Mr. E. Treacher Collins remarks in his excellent introductory chapter, the affection from which those troops were suffering was probably of a mixed type, partly trachomatous and partly gonorrhœal, whilst at the present time the Koch-Weeks bacillus is found in the muco-purulent discharge from the conjunctiva which occurs in England during an acute exacerbation of the symptoms. There is every reason for believing that trachoma is of old date in Egypt though perhaps less prevalent than at the present time. In the papyrus discovered in Thebes by George Ebers which dates to a period 1500 years before Christ the prescriptions intended to be serviceable in affections of the eye constitute one-tenth of the whole. Still, no micro-organism has been found on which the finger can be laid as definitely the cause of trachoma. Dr. Boldt traces the history of the disease as it appears in the written records of India, of Greece, of Rome, and of the Middle Ages in the pages of Aristophanes, of Celsus, of Pliny, of the Arabian physicians Rhazes and Avicenna, of Graphæus, Guy de Chauliac, Ambrose Paré and many others; he shows how it is not limited to any country, any height above the sea level, any local conditions of swamp or forest, to exposure to moist atmosphere or to dry. It is poverty with its attendant evils, overcrowding, and impure water that most favour its spread.

The arrest of outbreaks in the schools of this country, and of London in particular, by the precautionary methods recommended by Mr. E. Nettleship, Mr. Collins, and Mr. Sydney Stephenson show how much can be done in the way of suppression and how important it is to take the cases in hand at the very outset. It cannot be too strongly impressed on the minds of those who have the charge of schools that constant supervision is required and that whilst the disease is curable in the earlier periods many remedies may be tried in the later stages with little benefit to the patient. The numerous aliens who have recently been imported into the East-end of London, many of whom suffer from this disease, are a veritable source of danger to the community. There is every reason for believing that trachoma is now attacking the Russian and Japanese troops in Manchuria. Impure water, hunger, fatigue, exhaustion, and overcrowding are all in operation amongst them. As long ago as 1890 there were 45,000 cases of trachoma in the Russian army. In Crainicean, in Roumania, the numbers amounted to 520 in every 1000 cases of ophthalmic disease. We need hardly add that in a work of such research and learning as the present the treatment of the disease is described at great length. The unsatisfactory nature of the remedies proposed is sufficiently attested by their number. There is an excellent bibliography. The monograph deserves careful study by every ophthalmologist.

Pharmacopœia of the University College Hospital. Edited by HAROLD WILSON, B.Sc. Lond., Pharmaceutical Chemist, late Pharmacist and Teacher of Pharmacy to the Hospital. London: Jas. Truscott and Son, Limited, 1904. Pp. 65.

THIS is distinctly one of the most satisfactory productions of its kind and it is probable that both the medical student and the busy practitioner will frequently derive benefit from reference to its pages. The actual formulæ only occupy some 26 pages and do not present any unusual features beyond being in English and having the approximate equivalents in the metric system opposite each formula. This section is, however, of interest in showing the practice pursued at University College Hospital. Purists might object that some of the mixtures are named in accordance with their actions rather than their leading ingredients, but after all this is a question for the discretion of the members of the medical staff rather than the editor. The appendix which constitutes one-half of the book is specially interesting. It deals in a practical way with such diverse subjects as the use and preparation of enemata, poultices, clinical methods of testing the urine and examining the blood, the treatment of acute poisoning, and the treatment of bedsores. In all that relates to these subjects the information is concise and trustworthy and will no doubt be frequently referred to by students. These subjects do not necessarily pertain

to a pharmacopœia but if a student must carry about a small handbook for pharmacopœial doses, and for the composition of the preparations in use in his hospital, it is undoubtedly convenient to include in small space information on other subjects of equal practical importance. The little book, clearly printed on good paper and strongly bound, is a valuable compilation for the use of medical students and practitioners.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. Specificity of Antivenomous Sera. (Second Communication.) By Captain GEORGE LAMB, M.D. Glasg., I.M.S. New Series, No. 10. Calcutta: Office of the Superintendent of Government Printing. 1904. Pp. 25. Price As. 8 or 9*d*.

IN his previous communication on the Specificity of Antivenomous Sera Captain George Lamb produced evidence showing that an antivenomous serum is in all probability strictly specific—that is to say, that a serum prepared by injections of a single pure venom is able to neutralise that venom only and no other. Since this communication was published the author has greatly extended his observations in regard to various points in which the conclusions had fallen short of a complete study of the question of specificity. Captain Lamb for the purpose of his experiments had two different antivenomous sera—viz., a serum prepared by Tidswell with the poison of hoplocephalus curtus and a serum prepared by himself with pure unheated cobra venom. These two sera were tested against the poison of a great many species of snakes. The sera were in addition tested not only against the general action of these venoms *in vivo* but also in most cases against their hæmolytic poison and against their action on the blood plasma *in vitro*. The technique employed was as follows. In all cases rabbits were the animals experimented on. The test dose of venom, which was always a small multiple of the minimum lethal dose, was mixed *in vitro* with different amounts of the serum, and the mixture, after standing at a temperature of about 18° C. for half an hour, was then injected subcutaneously or intravenously as the case might be. The following were the results obtained. The serum of a horse immunised with pure cobra venom is strongly antitoxic for the venom used in its preparation but contains no antitoxic substances active against the venom of either bungarus cœruleus or bungarus fasciatus. Also the serum of a horse immunised with the pure venom of the Australian snake hoplocephalus curtus is strongly antitoxic for its corresponding poison but has no neutralising power for the poisons of any of the Indian colubrine snakes against which it was tested. The above two antivenomous sera were likewise found to be quite inactive against the poison of four species of viperidæ.

With regard to the question whether these antivenomous sera had any hindering effect on the hæmolytic action *in vitro* of any of the venoms mentioned above, Captain Lamb found the hæmolysing elements of venom differ from one another as markedly as do the elements which act on the central nervous system. Finally, as regards the question of ascertaining whether cobra venom or hoplocephalus curtus venom had any hindering effect on the actions of the different poisons on the blood coagulability *in vitro*, the author finds that so far as this action of snake poisons is concerned an antivenomous serum appears to be specific.

Captain Lamb's work in the matter of snake poisons is shown by the above report to be thoroughly scientific and exact and reflects great credit on himself and on the service to which he belongs.

LIBRARY TABLE.

Clinical and Pathological Observations on Acute Abdominal Diseases Due to Conditions of the Alimentary Tract and the Uniformity of their Origin. The Erasmus Wilson Lectures, 1904. By EDRED M. CORNER, B.Sc. Lond., M.B., B.C. Cantab., F.R.C.S. Eng. London: Archibald Constable and Co., Limited. 1904. Pp. 98. Price 3*s*. 6*d*. net.—The main object of these lectures is to draw attention to the identity of the pathological changes concerned in the production of all acute perforative and gangrenous processes of the alimentary tract, such as appendicitis, perforations of gastric, duodenal, and other ulcers, gangrene in strangulated herniæ, "diverticulitis," or the inflammation of Meckel's diverticulum, and perhaps in acute pancreatitis and liver abscess. An endeavour is made to point out a probable and uniform bacterial origin for all these in the action of pyogenic organisms, streptococci and staphylococci; thus bringing the pathology of acute surgical diseases of the alimentary tract into harmony, if not absolute identity, with abscess formation and suppuration in other parts of the body. The lectures were entitled "Acute Infective Gangrenous Processes of the Alimentary Tract" when delivered in our columns, but for purposes of publication they have now received the present revised title. Each of the 28 sections into which this little book is divided is well worth careful study. Mr. Corner has proved himself a critical observer and one who is able to draw sound conclusions from what he sees. The eighth section, on Intestinal Suturing, contains much that is useful practically. Mr. Corner quotes cases in support of his statement that infection or sepsis is the cause of the so-called leaking of an anastomosis. His observations shed a very important light upon the origin and occurrence of fæcal fistulæ, which, he points out, are the results of the extension of the acute infective necrotic process. Eight cases of fistula following appendicitis are cited in support of this view. In his chapter on the Clinical Interpretation of the Bacteriology of Acute Infective Necrosis he writes: "It is also hoped that much has been done to remove from the walls of the alimentary canal their traditional character for delicacy, and their proneness to become gangrenous or necrotic on the least provocation. The tissues of the alimentary tract are, in fact, liable to exactly the same laws of life and death as the others which constitute the body. But owing to the natural septicity of the contents of the intestinal canal moist gangrene, i.e., septic death or necrosis, is infinitely more common than a dry gangrene, i.e., aseptic necrosis, if the latter exists there." We think that all surgeons should take the opportunity of reading this able monograph.

The Wisdom of the East Series: The Sayings of Lao Tzŭ. Translated from the Chinese, with an Introduction, by LIONEL GILES, M.A. Oxon., Assistant at the British Museum. London: The Orient Press. 1904. Pp. 54. Price 1*s*. net.—In this issue we are given the translation of a classic, the immortal book of a great Chinaman who lived some 50 years before the time of Confucius. For want of better equivalents "Tao Tê Ching," the title of the book, may be translated "Treatise of the Way of Virtue." Although rather confused in its arrangement it is something much more than a mere jumble of stray aphorisms. It is, in fact, a well-defined though rudimentary outline of a great system of transcendental and ethical philosophy. Its real value lies in the wealth of suggestive hints and pregnant phrases. It was first officially recognised as a classic under the Emperor Ching Ti (B.C. 156-140) of the Han dynasty. Lao Tzŭ was undoubtedly the first man to preach the gospel of peace and intelligent inaction. Readers will be struck by the similarity of tone between the sayings of this philosopher and the Gospel enunciated six centuries later by the Prince of Peace. As the translator says, "There are two famous utterances in particular which secure to Lao Tzŭ the glory of having anticipated the lofty morality of the Sermon on the Mount." They are "Requite

injury with kindness" and "To the not good I would be good in order to make them good." The sayings of this sage provide food for every mind and the quaint wording gives pleasure while the attention of the reader is riveted.

The Phonographic Record of Clinical Teaching and Medical Science. November, 1904. London: Sir I. Pitman and Sons, Limited.—This number contains the conclusion of a note on papers by Captain Leonard Rogers, I.M.S., entitled Some Recent Work at Snake Poisons. The original papers were published by the Royal Society during 1903 and 1904 and a good deal of the information is contained in Captain Rogers's paper published in THE LANCET of Feb. 6th, 1904, p. 349. In the *Phonographic Record*, however, he gives further particulars of the local treatment of snake bite by permanganate of potash and of the instrument designed by Sir Lauder Brunton which consists of a small lancet with a space at its base for crystals of the drug, both ends being protected by wooden caps. After certain ligaturing incision is made at the seat of the injection of the venom and the solid crystals are rubbed in over the venom. The instrument will be sold by Messrs. Arnold and Sons at a very low price and can be carried in the waistcoat pocket. Referring to the local treatment with permanganate of potash the author says: "When it becomes widely known it may lead to much saving of life and rob life in the tropics of one of its greatest terrors." The other interesting article in the paper is one by the editor, Dr. F. H. Spooner, on "Esperanto," the international language invented by Dr. Zamenhof. He says: "I hope my readers who have not thought about the subject will earnestly take it up." We are not prepared to go so far in our recommendation but an international language would be so valuable to a nation like ours, which trades with the whole world, that the claims of Esperanto might well be looked into. The Student's Complete Text-book of Esperanto can be obtained from Mr. H. B. Mudie, 67, Kensington Garden Square, London, W., price 1*s.* 8*d.* post free.

Looking Back.

FROM

THE LANCET, *SATURDAY*, NOV. 11, 1826.

With respect to the physical condition of the brain in sleep, as compared with the waking state, many different notions have been entertained. It may be worth while to mention a few of these.

Haller ascribes *sleep* to the absence, deficiency, or immobility of the *animal spirits;* or to compression of the nerves at their origin in the brain; and, in all cases, to the motion of the *animal spirits* through the brain being impeded; this impeded motion, he considers to be frequently owing to sanguineous congestion.

Dr. Cullen refers sleep to *collapse* of the brain; by which he understands, a state of *diminished mobility* of the *nervous fluid;* while Brown and Darwin suppose it to depend upon the exhaustion of the principle of *excitability*, as the consequence of the exertions taking place in the waking state, and which is re-accumulated by sleep.

Blumenbach again refers sleep to a diminished afflux of blood to the brain.—Richerand's opinion is not very different from this; he thinks the circumstances denote a diminished circulation in the brain, from less blood being carried to it, and that the brain in consequence falls into a state of *collapse*. Bichat simply refers it to an ultimate law of nature; which is, in fact, no explanation at all.

Some of the opinions now stated, are purely hypothetical, and rest upon no ascertained fact. Such are the notions of *collapse* of the brain, and *diminished mobility* of the *nervous fluid*, or *animal spirits*. The theory of *exhausted excitability*, is negatived by the circumstances; for sleep bears no proportion, or but little, to the degree of excitement or exertion that takes place during the day. Without mentioning further objections, I shall offer what appears to me the most probable solution of the problem; though in some points it may be little more than conjectural.

That the states of *sleep* and *waking* are to be referred to the brain, and that exclusively, appears from different circumstances. *Sleep* is a cessation of the proper functions of this organ, and which does not materially affect other parts. It is produced by causes, some of which act immediately upon the brain; such as direct pressure, either external or internal. These are sufficient to warrant us in considering the brain as the *seat* of sleep, if one may so speak.

There appears reason to believe, that sleep is occasioned by impeded circulation in the brain, that is, in those parts of the organ which are devoted to the *sensorial functions*. This, I think, will appear from a consideration of the causes that are found to induce or favour the approach of sleep, as well as those which tend to prevent it.

In the first place, direct pressure upon the brain, whether produced by external or internal causes, suspends the *sensorial functions*, or, in other words, induces sleep; and it is evident that this cause must have the effect of compressing more or less the blood-vessels of the brain, so as to impede proportionally the circulation.

Secondly, the recumbent posture, and still more a depression of the head below the level of the body. This impedes the return of the blood from the head, and so far must retard the circulation in the brain.

This leads me to recommend to your notice, a practice from which I have seen, I think, much advantage; namely, that of laying the head low in bed, and even considerably lower than the trunk of the body, in some affections of the brain where the *sensorial functions* are greatly excited. I was first led to this, by observing the patient getting his head off the pillow, as if he suffered less in this posture.

These causes operate directly in inducing sleep: but there are others, which produce their effect in an indirect way, though they ultimately produce the same result, of retarded circulation in the brain. No one doubts, I believe, that a moderate exercise of the *sensorial functions*, whether it be muscular exertion, agreeable sensations, or mental employment, is attended at first with an increase of vascular action in the brain; or that the continuance of such exertion leads naturally to the opposite, that is, diminished action; just as exercise is followed by fatigue. And I need not observe, that such a moderate exercise of the faculties, continued for a certain time, favours the approach of *sleep*.

Thirdly, darkness and silence, which generally (though not always) conduce to sleep, probably operate by the abstraction of stimulus from the eye and the ear, the excitement of which organs tends, *for a time*, to ward off sleep, though the same excitement, when continued, ultimately promotes it.

Fourthly. How *opium* or other narcotic substances, operate in producing sleep, it is more difficult to determine. There is great reason to suppose, however, that these drugs do, as their primary effect, increase the arterial action of the brain in a high degree; at least, we have all the signs of their doing so, with regard to the external vessels of the head; while the throbbing head-ache that succeeds the use of them, when the stupor is at an end and the patient recovers his feeling, serves to show what has been going on within. How an increase of arterial action in the brain, taking place to a certain degree, tends to retard the circulation through the organ, will be made to appear hereafter.

Upon the whole, I think it probable, that the immediate or proximate cause of *sleep*, or a suspension of the *sensorial functions*, is *retarded circulation* in such parts of the brain as are devoted to those functions. The gradual approach of sleep, and its imperfect state at first; and also the gradual return to the waking state; agree very well with the supposition here announced.[1]

[1] Excerpt from Lectures on the Diseases of the Nervous System by Dr. Clutterbuck. Lecture II.

SLEEPING SICKNESS AND RATS.—At the close of a long dissertation on sleeping sickness before the Society of Russian Physicians, Dr. V. L. Yakimoff stated that many rats in St. Petersburg were infected with its parasite and that the conditions of infection from them are at the present time being actively investigated by the Institute of Experimental Medicine.

THE LANCET.

LONDON: SATURDAY, NOVEMBER 12, 1904.

Medical Officers of Health for Counties.[1]

MR. FREDERICK WILLIAM WILSON, M.P. for Mid-Norfolk, has performed a useful service in obtaining a Parliamentary return showing the arrangements which have been made by the several administrative counties of England and Wales in the direction of appointing a whole- or part-time medical officer of health. The return is not altogether satisfactory reading and there is a long list of both English and Welsh counties wherein, if we judge by the return alone, there is no county conscience in matters sanitary. Some of these practically, though not legally, defaulting authorities are representatives of no mean counties in so far as area and population are concerned, for in the list we find such counties as Berks, Devon, Kent, Lincoln, Norfolk, Suffolk, Oxford, Hants, and Somerset. In other counties the appointment is almost nominal both as regards duties and pay. Bedfordshire and Cambridgeshire each pay 50 guineas yearly to a medical man to summarise the annual reports and to perform certain advisory duties, and a very similar practice prevails in Gloucestershire, Hertfordshire, and Huntingdonshire. As regards terms and conditions of appointment there is much disparity. In the case of the counties of Cheshire and Northumberland, for example, the duties are set out very fully which are expected of the county medical officer, but the county medical officers of health of Durham, Worcestershire, and Wiltshire would appear from the return to have no specified functions whatever, notwithstanding the fact that they receive stipends of from £700 to £1000 per annum. We know from other sources that the officials of each of these counties are able and active officers, and we can see that there might be an actual objection to limiting their scope of work; but inasmuch as all officials may not be equally competent, we think it would always be safer for the county authorities to define their expectations in regard to their health officer.

There are other facts in connexion with this return which will at once attract the attention of the reader, and foremost amongst these must be mentioned the relative insecurity of office and the absence of all superannuation allowances or pension. The usual condition is to this effect:—"The medical officer of health shall hold office subject to six months' notice on either side and shall not be entitled to compensation, pension, or superannuation on his ceasing to hold office." But in not a few instances the conditions are even worse. The following is not a comforting clause to find in an agreement under which a medical officer is spending the best energies of his life and under which he is perchance growing old: "No superannuation allowance or pension. Appointment held subject to three months' notice on either side." In the case of a medical officer of health whose reputation is world-wide and whose work will live long after he has ceased to labour we find this invidious condition and distinction: "Appointment to be held during the pleasure of the council and subject to such conditions as apply to all officers appointed by the council, except that no superannuation or pension shall be attached to the office." While these conditions obtain it is hardly likely that in a sanitary sense the county councils will exert a really strong and wholesome influence upon the progress of public health. In some instances, more particularly in the larger and wealthier counties, medical officers are doing admirable work in the direction of investigation and stimulation, but in others, when the summary of the annual report has been written there would seem to be little else for them to do. These summaries are excellent things in their way but their utility may be over-estimated. What is of far more value is some systematic survey of the county which shall form a guide to its sanitary condition, water-supplies, sewage disposal works, hospitals, and administration. In some instances, examples of which will at once occur to our readers, work on these lines has been admirably performed and volumes have been written, accompanied by maps, which are of the greatest value to sanitary workers in the areas affected. But the conditions under which these officers for the most part hold office are not such as to enable them to do pioneer work, and until we have the appointment of county medical officers under fairer terms as regards superannuation and tenure the general advance will, we fear, be slow, however fruitful may be the work in a few wealthy and populous counties.

[1] Return showing the Names of the County Councils in England and Wales which have Medical Officers of Health, with the terms of the appointments (in continuation of Parliamentary Paper No. 202 of Session 1896). Eyre and Spottiswoode. Price 2*d*

The Efficiency of the Methods of Performing Artificial Respiration in Man.

THE reports read by Professor E. A. SCHÄFER, F.R.S., before the Royal Medical and Chirurgical Society of London and his communication to the Royal Society of Edinburgh in December, 1903, have re-awakened interest in the whole subject of the means for effecting artificial respiration in the human subject. The history of the methods and of the workers and their theories extends over many years and reveals great diversity alike of opinion and practice. No doubt it is true that the conditions which call for the use of artificial respiration are sufficiently different to admit of a like dissimilarity in the means suggested to cope with them. A plan which may prove all-sufficient in one set of cases may stand revealed as being either useless or only partly effectual in others. This must not be lost sight of in considering the methods at present in vogue in order that full justice may be done to those who uphold them. The conditions, as we have said, may be so different as to call for various methods, even although the one aim of artificial ventilation of the lungs is common to them all. Thus

asphyxia—and we employ the term in its accepted rather than in its etymological connotation—in the newly born, in drowning persons, and in those whose nervous centres are poisoned by opium, chloroform, or other narcotics is not a simple pathological phenomenon or one which can be remedied upon any particular stereotyped plan. There is no doubt that inflation by mouth-to-mouth breathing was the first step taken to initiate or to revive respiration. Later came the use of catheters through which air could be blown by the mouth into the larynx of the patient and very soon followed the practice of hand pressure upon the chest to effect expiration. LEROY'S method of exerting pressure by means of a many-tailed bandage to induce expiration while the elastic recoil of the ribs when the pressure was removed effected inspiration was the first serious attempt to imitate the thoracic movements in respiration. Many plans since then have been advanced but all fall into the following categories: those in which inspiration is accomplished more or less effectually by artificial means, mouth-to-mouth inflation, by catheter, perflation by means of a bellows (FELL, HORATIO WOOD), and mechanical enlargement of the bony thorax which, by lessening intra-pulmonary pressure, aspirates air into the lungs. The plans of SCHÜLLER, FOREST, BAIN, PACINI, BROSCH, BYRD, SCHULTZE, and SILVESTER need not, with the exception of the last named, be particularised. SILVESTER'S "physiological method" still remains in common use and this is one of the systems with which Professor SCHÄFER deals, contending that it does not satisfy the requirements of all cases.

The obvious advantages of plans which produce intra-pulmonary negative pressure by forcing down the diaphragm induced DEW, BYRD, and SCHULTZE, and, to a certain extent, HOWARD, to rely upon them in order to induce inspiration. The schemes of MARSHALL HALL, called the "postural method," and of HOWARD, DUKE, PROCHOWNIK, and, more recently, of BOWLES and SCHÄFER, depend in part upon the elastic outspring of the ribs after forced compression of the thorax. Among the different methods adopted to effect expiration we may notice that MARSHALL HALL, HOWARD, DUKE, PROCHOWNIK, SILVESTER, and BROSCH, with others, trusted to some means of compression of the thorax, while BAIN and PACINI relied upon the elastic contraction following distension of the lungs. A close study, however, soon demonstrates to the student that the systems of procedure in most cases effect, or are expected to effect, their purpose in a complex rather than a simple manner. A broad distinction does, however, show itself between some of these methods. In SILVESTER'S, which is the one most commonly adopted either alone or in conjunction with HOWARD'S, BAIN'S, and PACINI'S, the patient lies on his back, whereas in MARSHALL HALL'S, in BOWLES'S, and in SCHÄFER'S systems the prone or semi-prone posture is adopted. Now if the case of the newly-born infant is put aside, since the problem presented by it is not parallel with that offered by the adult, the infant's lungs being airless, the question narrows itself into finding out which method gives the fullest ventilation of the lungs. That persons who have been immersed in water, in fact drowned, require in addition to aeration of the lung the removal of fluid from the air passages and stomach is obvious and so any method of artificial respiration adapted for the resuscitation of the apparently drowned must be competent to drain off fluid. It is, however, important to recognise that water seldom finds its way in any considerable quantity into the lungs and it is to be doubted whether, if any material quantity entered, such methods for resuscitation would succeed. However, Dr. BOWLES, whose authority upon the subject all recognise, has pointed out that in the drowned not only are the muscular tissues flabby but the lungs themselves are sodden, hydræmic, and inelastic.

Professor SCHÄFER has instituted comparative experiments to test the amount of air that can be made to enter the lungs (1) in the prone and (2) in the supine positions and as to the effectiveness of the pressure methods—viz., of HOWARD, of SILVESTER (traction on arms associated with pressure), and of MARSHALL HALL (by simple rolling and by rolling and pressure), and Professor SCHÄFER'S results are extremely interesting. The subject of the experiment was a youth the amount of whose tidal air in natural respiration was examined in the supine and the prone positions. With a respiration-rate of 13 the average amount of exchanged air per respiration was 489 cubic centimetres and per minute 6460 cubic centimetres in the supine, and with a respiration-rate of 12½ it was 422 cubic centimetres and 5240 cubic centimetres in the prone posture. The same subject was then tested by the SILVESTER method (supine). With a respiration-rate of 12·8 per minute an average of 178 cubic centimetres of air was exchanged per respiration and 2280 cubic centimetres per minute, or slightly over a third of the normal exchange per minute for the individual. With HOWARD'S pressure method (intermittent pressure applied to the lower ribs), the subject being in the supine posture and the average respiration-rate being 13·6, the average exchange per respiration was 295 cubic centimetres and per minute 4020 cubic centimetres. In the case of the MARSHALL HALL method "the patient is laid prone and rolled over to one side and back again and so alternately. When in the prone position pressure was exercised upon the back of the chest." Here, with an average respiration-rate of 12·6 and allowing for the rolling-over movement, the exchange per respiration is put at 254 cubic centimetres and the rolling without pressure at 192 cubic centimetres. In the prone pressure method, the one advocated by Professor SCHÄFER, the compression is obtained in the same way as in HOWARD'S method but the patient lies prone with a coat folded beneath the lower part of his chest. The respiration-rate being 13 the average exchange per respiration was 520 cubic centimetres and 6760 cubic centimetres per minute. It is clear that the experiments narrated above show that only in the case of the last method can an amount of tidal air be forced into the lungs which equals the normal exchange. Professor SCHÄFER investigated these methods and his conclusions refer to these methods alone and he is mainly concerned with the resuscitation of the drowned. Still, the fact that one method stands a long way in front of others as regards the amount of air which it effectually exchanges places that method first in all cases in which it is essential to empty and to fill the lungs rapidly. The prone posture is not one which is so easily to be employed in cases of suspended respiration in chloroform poisoning but is undoubtedly the best in

cases of drowning, as it not only gives the most free ventilation of the lungs but also efficiently drains the air passages of water. Even in cases of suspended respiration under anæsthetics when the operation has been commenced and is not one involving cœliotomy, there appears no insuperable objection to turning the patient face downwards while artificial respiration is carried out in the manner suggested by Professor SCHÄFER. We cannot but feel that the experiments narrated to the Royal Society of Edinburgh when taken with Professor SCHÄFER'S paper read before the Royal Medical and Chirurgical Society make a strong case for his pronouncements. Those who spoke in criticism were not prepared to traverse the experimental work and however specious *a priori* reasoning may be it at best must give way to a demonstration such as is furnished by the experiments to which we have referred. We are not, however, concerned to take up the cudgels for one opinion or another but merely to call attention to a painstaking piece of work which certainly appears to carry conviction unless its conclusions can be shown to be false or its reasoning faulty. At present we are inclined to believe that neither have the conclusions nor the reasoning been shaken or disproved.

The Purity of our Milk-supply.

IN the action of Frost *v.* the Aylesbury Dairy Company, Limited, an application has been granted for a stay of execution pending an appeal upon the various points of law arising out of the case and out of Mr. Justice GRANTHAM'S presentation of them to the jury, and since in the result a new trial may be ordered comment upon the evidence given, or upon the learned judge's deductions from it, would be out of place. The case, however, is one which naturally has attracted considerable public attention, and as it may not only prejudicially affect the Aylesbury Dairy Company beyond the extent of the damages which the jury has found against it, but may also tend to discredit the trade of other enterprises of a similar character, it is well that the issues raised should be clearly understood and that the precautions taken by the large milk purveyors for insuring a pure milk-supply to their customers should be appreciated. Dairy farms in this and in other countries are not invariably conducted in accordance with the highest standards recommended by sanitary science, standards which to our forethers were absolutely unknown; and farmyards and their buildings are, in the nature of things, places in which strict attention to sanitary precautions is pre-eminently needed if any degree of safety for the public is to be obtained. Some farmers, perhaps a majority of them, may now be versed in modern methods and anxious to practise them, but they are likely to do so most carefully where they are always under strict surveillance and when any deviation from their duty towards their neighbours will imply, not the loss of one or two customers out of many, but complete deprivation of all trade until they can find new purchasers to deal with them. This surveillance, with the certainty of the loss of a remunerative contract in case of default, is obtained where dealing is with an agency which buys milk wholesale and distributes it through its own servants to the consumer.

We hold no brief for the Aylesbury Dairy Company, which, if the verdict obtained against it in the King's Bench Division stands, will have to pay damages in respect of a deeply-to-be-deplored incident arising in the course of its business. But we may point out that the Aylesbury Dairy Company and other trading associations managed on similar lines take precautions which protect their customers to a very high degree—so much so that many sanitarians will be found wishing that the whole of the milk-supply in these islands could be subjected to like conditions. The dairy farmer who supplies the Aylesbury Dairy Company, the rules of which may be taken as an example, has, as a preliminary, to give full particulars of his distance from railway and telegraph stations and of the amount of the supply to be expected from him, matters closely affecting his relations with the company and its control over him. He further has to answer questions which might with advantage be addressed to many who keep cows only for the private supply of their own families. These have reference to the source of all water likely to affect the operations of his dairy, and to the apparatus for heating water and cooling milk which he possesses or is willing to obtain. His farm is then submitted to the examination of a medical man, in many instances to the medical officer of health of the district, who answers in the form of a detailed report more than 30 questions, amounting to a cross-examination upon the water-supply, sanitation, and general conditions of the farm and the health of its establishment. Samples of the water to be used are taken and submitted to chemical and bacteriological examination. A monthly medical and sanitary report, similar in character but less minute in detail, is further required and given, and a veterinary surgeon also reports every month upon the condition of the cows from which the milk-supply is derived. It is not easy to suggest anything else which might be done with the object of obtaining a regular, fresh, and wholesome milk-supply, and the measures specified are stated to cost the company named £7500 per annum. That the money spent bears a due relation to the money earned may be assumed, but the managers of the Aylesbury Dairy Company, and analogous companies, know full well that their profits depend on the vigilance and thoroughness with which they are prepared to protect the public. We may be dealing with a breakdown in the system—that is a matter which cannot be discussed by us now—but we should be wanting in our duty if we did not point out that the system itself is a thoroughly good one.

In the appeal now pending an important point will presumably be discussed and decided as to whether on all occasions, and in spite of all possible care, when a purveyor of such an article of food as milk sells it to the public infected with germs of disease he is, *ipso facto*, liable for doing so. Among recent well-known cases connected with articles of diet those relating to arsenic in beer will be remembered, and it will be interesting to see whether the liability which attached to the brewer who inadvertently used glucose, prepared by another firm with sulphuric acid, the acid, also prepared by another firm, containing arsenic, will be extended to the milk purveyor whose milk is believed by a jury to have contained the bacillus of typhoid fever. Other questions which may arise are

of considerable importance to the public and to the medical men who are liable to be summoned as expert witnesses. There is no need to detail them, for they comprise everything concerned with the maintenance of a high standard of purity in the meat and drink of the people. But we may allude to a small matter which may not affect the question of law to be raised before the Court of Appeal but which to some extent interests us all. Mr. Justice GRANTHAM during the trial and in his summing up referred with disapproval to the defendant company using the name of Aylesbury although at the present time they do not derive their supply of milk from the Aylesbury district. He seemed to regard it as a kind of false pretence. To us the continued use of a name originally having a local signification appears strongly to resemble in principle the retention by a firm of a title containing the names of dead or retired partners. "BROWN, JONES, and ROBINSON" is often the style of a firm when one or two or even all of the persons who once owned these patronymics and coöperated under them have ceased to exist. But the public is not wont to regard this as a false pretence but rather as a sort of promise that business will continue to be done upon lines that have proved satisfactory. If this is a matter upon which the Court of Appeal can pronounce, it would be interesting if they would do so in the present case.

Annotations.

"Ne quid nimis."

THE ILLNESS OF THE PRIME MINISTER.

As all our readers know, the Prime Minister has for some days past been confined to his room by a slight attack of phlebitis. He has, however, not been prevented from meeting his political colleagues and practically the country has not been deprived of his services. The course of events has been as follows. On Nov. 2nd the Prime Minister presided at a Cabinet Council held at No. 10, Downing-street and in the afternoon of the same day the following notice was issued: "Mr. Balfour is suffering from the blocking of a small superficial vein in the left leg which consequently requires complete rest. His general health is excellent." On Nov. 3rd Sir Frederick Treves, at the request of His Majesty the King, saw Mr. Balfour in conjunction with his usual medical attendant, Mr. Edgcombe Venning. The attack of phlebitis was ascertained to be quite slight and Mr. Balfour has since progressed as favourably as possible. A political engagement into which the Prime Minister had entered at Glasgow for Nov. 23rd has been cancelled for the present, but it is hoped that Mr. Balfour may after all be able to attend.

THE BIRTHDAY HONOURS.

IN the list of Birthday Honours are the names of four medical men who have received the honour of knighthood—viz., Mr. Charles H. Marriott, Mr. Shirley F. Murphy, Professor William Japp Sinclair, and Major Allan Perry, R.A.M.C. To these gentlemen we offer in the name of the medical profession hearty congratulations. Sir Shirley F. Murphy in his capacity of medical officer of health to the administrative County of London has rendered services to the metropolis the value of which it would be hard to estimate adequately, services which not only add to the comfort and well-being of the present inhabitants of the capital of the British Empire but which must of necessity have an important bearing upon the health of generations yet unborn. The influence of his work has extended throughout the kingdom, for not only do other cities look naturally to London for examples of how to deal with the great problems of sanitation, but Sir Shirley Murphy has been president both of the Epidemiological Society and of the Society of Medical Officers of Health, and his personality and work in both capacities have had useful effect upon the State medicine of the kingdom. As a member of the Royal Commission upon Tuberculosis he rendered expert aid to an inquiry of the first importance, while his annual reports to his authority, as well as to the Local Government Board and the Home Secretary, on sanitary subjects have been models of practical sense. Few but medical men can appreciate exactly the responsibility of the duties which attach to a position such as that held by Sir Shirley Murphy, but the most unimaginative man can surmise that to be in official supervision of the public health of the County of London must call for the constant exercise of scientific knowledge, tact, and untiring industry. Sir Shirley Murphy has more than fulfilled the demands made upon him and we have particular pleasure in recording the Crown's recognition of this fact. Sir William Japp Sinclair, who is professor of obstetrics and gynæcology at the University of Manchester, has had much and varied experience of the branch of the healing art with which his name is associated. He is an ex-president of the North of England Obstetrical and Gynæcological Society and of the Manchester Medical Society and was lately examiner in midwifery and medical jurisprudence at the University of Aberdeen. He is the author of several important contributions to medical literature on the subject of diseases of women and is a member of the Midwives Board, where he has not been afraid to speak his mind and to take openly a strong professional attitude. Sir Allan Perry is the principal civil medical officer and inspector-general of hospitals of the island of Ceylon. He is also principal of the Ceylon Medical College and has laboured usefully in ophthalmology. Sir Charles H. Marriott has done valuable work as surgeon to the Leicester Infirmary, is the founder of the nursing institution connected with that charity, and is also consulting surgeon to the Leicester and Rutland County Lunatic Asylum. His work has been local but he has been held in general esteem among his *confrères*. Though not a member of our profession we mention also the name of Sir Joseph W. Swan as that of a man whose merits medical men can well appreciate. Sir Joseph Swan, D.Sc., F.R.S., President of the Faraday Society and Past President of the Institution of Electrical Engineers, invented the incandescent electric lamp which bears his name and which is the type on which all subsequent incandescent electric lamps have been constructed. He is also the inventor of the autotype electric process of photography.

THE FIGURE OF ÆSCULAPIUS IN ANCIENT ART.

THE iconography upon coins and monuments of the Greek god of healing, Æsculapius, is fairly well known, but when we come down to Roman times we find that their Æsculapius partakes of the attributes of other deities. This is notably the case with regard to the Romano-Punic Æsculapius who is assimilated with the old Phœnician god Eshmoun. A coin of Septimius Severus gives us a representation of Æsculapius-Eshmoun youthful and beardless, with two serpent supporters and the caduceus, or serpent baton, in his hand. Taken by itself this piece might be considered as representative of Æsculapius only, but in

reality it is a type derived from the coins of Æsculapius-Eshmoun of Grecian and Phœnician times—the deity whose sanctuary at Carthage was destroyed in the great siege of 146 B.C. This view of the numismatic evidence as to Æsculapius-Eshmoun has recently been confirmed by a coin which gives us a tableau of a deity representing much more the attributes of Eshmoun than those of Æsculapius, but at the same time indicating clearly the alliance or affinity of the two gods. It was struck by the Roman colony at Beyrout, the ancient Berytus, and although dating from the epoch of Elagabalus, being a coin of Phœnicia, it presents the form of the ancient Punic concept of Eshmoun to a greater extent than the Roman coins do further west, because their engravers came more under the influence of Hellenic ideas. The god is depicted as a youth with a short shoulder cloak only, with two dragon-headed serpents. This is very unlike the bearded somewhat Zeus-looking god of most Greek art, but is certainly the prototype of the Æsculapius-Eshmoun of the coin of Septimius Severus. His juvenile appearance does not, however, prevent us regarding him as the veritable double of the Greek Æsculapius, for the Asclepios adored at Berytus was a juvenile type of god assimilated to Eshmoun, who, we know, was mixed up with Tammuz (Adonis). In short, the usual figure of the god is bearded, wise, benevolent-looking, and elderly, but this is not the only type; when he is assimilated to Eshmoun he becomes youthful and beardless. This explains statements in the classics that had been accepted with hesitation, for they said that beardless and youthful representations of Æsculapius had been sculptured by Calamis for the temples at Sicyon and Phlionte, and that Scopas had carved another such form of the god for Gortys of Arcadia. We possess types of the young Æsculapius, and it is probable that certain extant statues hitherto attributed to other deities appertain to the god of medicine.

THE LANCET AND FRAUDULENT PRACTICE IN THE SPIRIT TRADE.

A CORRESPONDENT writes:—"The salutary effect produced on the brandy trade by THE LANCET Commission on Brandy is very clearly evidenced by the numerous successful prosecutions, especially in the north, against publicans for selling brandy containing silent spirit. The articles in the same journal, especially in THE LANCET of Oct. 1st, are also having their effect in assisting those who deal in pure and unsophisticated spirits as against those who deal in spirits adulterated with silent spirit. In the *Wine Trade Review* of Oct. 15th there are reported three prosecutions against publicans for selling brandy adulterated with silent spirit, and the writer hears from excellent authority that since the work of THE LANCET Commission the trade in cheap brandies, consisting chiefly of silent spirit, has become almost *nil;* the retailer has learnt his lesson and dare not retail this sophisticated brandy any longer without declaring the nature of the spirit he is selling. That there is a necessity for supervision in the spirit trade is recognised nowhere more fully than among those in the trade who try to sell the unadulterated article. The Brighton Licensed Victuallers' Association has already approached the Government with a view of obtaining a proper standardisation of spirits; the Wine and Spirit Association is doing the same thing, and this is all the result of the work of THE LANCET Commission on Brandy. And in the present day when far more whisky is drunk than brandy surely more attention should be given to whisky than has been given in the past. The writer has seen a circular to the trade offering to supply 'finest Irish whisky,' 25 over proof, at 1*s.* 2*d.* a gallon (of course in bond), and has before him as he writes a circular offering to the consumer either Scotch or Irish whisky at 1*s.* 2d. a gallon. Now pot-still whisky cannot be made under 3*s.* a gallon; therefore these cheap whiskies must be made from silent spirit which can be bought in this country at from 11*d.* to 1*s.* a gallon. Whisky as bought by the consumer is supposed to be the product of the distillation of the fermented wort of malt, or malt and grain, in a pot still. But in buying these cheap whiskies he is buying a silent spirit flavoured to imitate whisky and what is the result? These cheap whiskies can be sold, and are sold, at 3*d.* and 2½*d.* a glass. Figures prove that spirit at 1*s.* 2*d.* a gallon 25 over proof reduced to 17 under proof and duty paid comes to 9*s.* 9*d.* a gallon; a gallon contains 64 glasses, which is equal to 1·83*d.* per glass, so that selling that whisky at 2½*d.* a glass gives a profit of 25 per cent. to the retailer; but more than that the man who buys this whisky for 2½*d.* or 3*d.* a glass can afford to buy two glasses with the same money or a little more than he would have to pay for one glass of good whisky. This raw immatured silent spirit soon affects the brain and in this way it is easy to account for the horrible crimes committed under the influence of drink, especially in our seaside ports, and also in some degree may account for the increase in our lunatics. It is high time that the Government did step in and do its best to insure that the spirits sold in this kingdom are of the 'nature and quality' demanded; or if sophisticated with silent spirit should be clearly marked or branded as such."

A CASE OF WEIL'S DISEASE IN AN INFANT.

SINCE Professor Weil of Heidelberg described in 1886 the disease which has since been generally referred to under his name a number of cases have been recorded, mostly in men between the ages of 20 and 30 years. Professor Weil described his first four cases under the title of "a peculiar form of infectious disease characterised by jaundice, swelling of the spleen and liver, together with nephritis," and was uncertain whether to regard the disease as a variety of toxic or severe jaundice or as a specific infective process. In England and America the disease appears to be rare or, at any rate, little recognised, and such cases as have been observed have been regarded for the most part as mild cases of toxic jaundice or icterus gravis not necessarily due to one common or specific cause. In Germany, however, from the outset most observers regarded the disease as a specific infective disorder and a number of observations have been made from the bacteriological standpoint, the most interesting of which were those of Dr. Jaeger of Ulm in 1892. Among nine cases of the disease observed by him three were fatal and from these he was able to isolate an organism of pleomorphic characters to which he applied the name of bacillus proteus fluorescens. This organism he also found in the urine of four out of the six cases which ended favourably and also in the water of the Danube at Ulm and in an infective disease of the aquatic birds of that district. Fatal cases of Weil's disease are comparatively rare and it is therefore of interest to refer to a case observed during life and carefully examined both from the pathological and bacteriological points of view by Dr. Hermann Brüning of Leipsic and recorded in the *Deutsche Medicinische Wochenschrift*, Nos. 35 and 36, 1904. The case is, moreover, unique among those recorded in that the subject of the disease was an infant aged four months. After a supposed chill the infant was attacked by diarrhœa, wasting, cough, and fever, with a slight degree of jaundice rapidly following. There was general tenderness of the whole body and shortly afterwards the liver and spleen were found to be enlarged. The jaundice soon lessened but the examination of the urine revealed the existence of nephritis. From the urine and fæces a bacillus was isolated which proved to be the bacillus proteus fluorescens. The serum of the infant exhibited only very slight agglutinating powers when tested against this bacillus but caused agglutination of the typhoid

bacillus as well as if the serum had been obtained from a case of typhoid fever, a fact which has been frequently observed before—viz., that the blood of patients with jaundice may possess a high degree of agglutinating power towards the typhoid bacillus. The case ended fatally 23 days after the commencement of the illness. At the necropsy fatty infiltration and degeneration of the liver, similar changes of less degree in the heart muscle, and an intense purulent inflammation of the parenchyma of the kidney were found, together with swelling of the lymphoid follicles of the intestinal mucosa and small hæmorrhages under it. Cultures of the bacillus proteus fluorescens were obtained from the kidneys, lungs, spleen, liver, bile, and blood from the heart, these having identical characters with those obtained during life from the urine and fæces. Animal inoculations showed that the organism possessed pathogenic properties for mice and guinea-pigs but only when injected intraperitoneally and, further, that the bacilli and not their toxins were the infective agents. The case is thus of great interest not only in view of the rarity of the occurrence of this disease in infancy but also in the confirmation of Dr. Jaeger's results at Ulm, and tends to support very strongly the view of German observers that the disease is a specific one due to the special organism described. At the same time, as Dr. William Hunter points out in his article on this subject in Allbutt's "System of Medicine," there is nothing specific in the lesions observed, and the appearances are in most respects like those of other toxic jaundices, such as that produced by toluylene-diamine. Further observations are therefore necessary to demonstrate conclusively the uniform presence of this organism in cases of Weil's disease, which would alone entitle it to be regarded as the specific infective agent.

DEWSBURY TOWN AND INSURANCE AGAINST DISEASE.

WE find it difficult to comprehend the inner meaning of the last act of folly perpetrated by the Dewsbury town council. We say inner meaning advisedly, because we feel that there must be something behind it all with which we are not familiar. But although we can offer no explanation we can at least record what are apparently the facts and leave the future to solve the mystery. The medical officer of health, weary doubtless of the thankless task upon which he has been engaged, proposes to retire from the service of the Dewsbury town council, and that council, being anxious to comply with the provisions of the Public Health Act, 1875, is taking steps to fill the vacancy as economically and, we are really beginning to fear, as nominally as possible. Dewsbury at the last census had a population of over 28,000 and the town council, after all its experience and all its misfortunes, would appear to be under the delusion that it can prevent a similar occurrence in the future by paying a medical man the paltry sum of £80 a year to superintend the health interests of the people, a large number of whom occupy houses which are constructed on the back-to-back principle. We do not propose at this juncture to discuss the matter further because we feel that there is perhaps some unfortunate error or misprint in connexion with the advertisement which appeared in the *Dewsbury District News* of Nov. 5th. If the sum of £80 is not a misprint we suspect that the sanitary committee is being misled as regards the true interests of Dewsbury, and this theory is, we think, the more probable because in other respects the council appears to be taking a reasonable view of the situation and to be doing what it can to make amends for the misfortunes of the past. We, therefore, most earnestly hope that every member of the sanitary committee and every member of the town council will consider very seriously and without prejudice whether this last proposal is really in the health or economic interests of the important borough over which they have the honour to preside, but which has recently cut rather a sorry figure in municipal records. It is interesting to note in connexion with our annotation on the Dewsbury (Small-pox Prevention) Order, 1904, which appeared in THE LANCET of Oct. 29th, that the Local Government Board has since that date issued two more Orders relative to urban districts in the Dewsbury union—i.e., the urban districts of Ravensthorpe and Southhill Nether. These Orders have been issued under the provisions of the Public Health Act, 1875, and the Public Health Act, 1896, and they confer power upon the two urban district councils concerned to open vaccination stations and to provide for vaccination within the limits of their districts. As we pointed out on Oct. 29th the issue of the Dewsbury Order left those other districts unprovided for and it was for this reason that we urged the desirability, if possible, of conferring powers in respect of vaccination upon the West Riding county council. These later Orders go far, however, to meet the objections which we raised.

LUNACY IN LONDON.

THE report for the year ending March 31st, 1904, of the Asylums Committee of the London County Council states that the total number of London pauper lunatics under its care in the various public asylums and other institutions amounted on Jan. 1st, 1904, to 17,592, being an increase of 327 on the previous year. "There were also 6356 patients accommodated in the imbecile asylums of the Metropolitan Asylums Board, making the total number of lunatics of all classes (exclusive of private patients and patients chargeable to the Prison Commissioners) 23,948, as compared with 22,952 on Jan. 1st, 1903." The total increase of pauper lunacy, therefore, as shown by comparing the figures of Jan. 1st, 1903 and 1904 respectively, amounts to 996 during the year 1903, "the largest annual increase we have to record." A graphic statement in the form of curves illustrating the growth of the general population and of the lunacy population of London is appended in the report. This shows that since 1889 the growth of the lunacy population has proceeded at a slightly greater rate than the growth of the general population and that this growth of lunacy has undergone marked acceleration during the years 1901, 1902, and 1903, while the growth of the general population has maintained its ordinary rate. The increasing pressure of cases necessitates accommodation being provided and during the year the Asylums Committee of the London County Council has been able to do so to the extent of 384 beds—324 by the opening of the epileptic colony at Ewell and 60 by the opening of a villa for male patients at the Manor Asylum. "We are proposing," adds the report, "to construct a hospital villa at the Heath Asylum, Bexley, to accommodate 50 male patients and staff. This villa will be conducted on strictly hospital lines, the patients being retained there until their cases have been diagnosed; non-recoverable cases will then be sent to suitable wards in the main building, while recoverable cases will be retained until convalescence is established, when they will be transferred to the convalescent villa and eventually discharged. The result of the use of a new similar villa on the female side of the asylum has proved to be most advantageous, the bulk of the new cases not entering the main building at all." The Bill promoted by the London County Council for the establishment of "receiving houses" for alleged lunatics in London was introduced as a public bill in the House of Lords last session. The Bill passed the House of Lords without amendment, but time did not permit of its making progress in the House of Commons. The Council, however, has decided to have the Bill introduced in the House of Commons during the coming session. The following

statistical table shows the average yearly number of patients in each of the London County asylums, the total annual admissions and first admissions, and the recovery- and death-rates.

Asylum.	Average number of patients resident.	Total admissions in the year.	First admissions in the year.	Rates of recovery and of death, calculated on the average number resident.	
				Death-rate, per cent.	Recovery-rate, per cent.
Hanwell	2565	614	518	9·9	8·1
Colney Hatch	2176	522	418	11·8	9·5
Banstead	2450	509	439	7·7	8·3
Cane Hill	2124	382	361	6·4	5·6
Claybury	2396	607	546	8·3	8·0
Bexley Heath	2085	585	528	8·0	7·8
Manor, Epsom	691	147	138	4·8	7·3
Horton	1940	842	824	12·0	11·2
Ewell	74	294	294	0·0	0·0

THE SETTING OF FRACTURES UNDER THE EYE WITH THE FLUOROSCOPE.

THE *New York Medical Journal* of Oct. 22nd contains an important paper by Dr. Harry L. Gilchrist, of the medical service of the United States army, on a new method of using the x rays in the treatment of fractures—setting them under the eye with the aid of the fluoroscope. He relates the following cases. A cavalryman, aged 24 years, was thrown under his horse, the animal falling on him. Examination under anæsthesia led to the diagnosis of dislocation of the right ankle and fracture of the bones of the left leg which was supposed to be comminuted. On the third day after the accident he was admitted to hospital under Dr. Gilchrist's care. The right leg was encased in plaster-of-Paris and the left in a thin cotton dressing. Both limbs were bound together and immobilised by a long posterior splint. Examination under the x rays showed that the fracture was not comminuted and that the fragments overlapped for about an inch. Under anæsthesia an attempt was made to set the fracture by the usual methods. On account of the large amount of swelling this was unsatisfactory. The operating room was darkened and the mattress bearing the patient was placed upon a long radiographic table. The x-ray tube was placed beneath the fractured limb and another fluoroscopic examination was made to see that everything was in working order. Arrangements were then made for adjusting the fracture by fastening a towel below the knee and another above the ankle for extension and counter-extension. Everything being ready and the assistants being in their places the tube was again energised and with the fluoroscope over the fracture the position of the fragments could be constantly seen. The assistants were directed as to the amount of extension necessary and with little trouble the ends of the fragments were brought together, notwithstanding the large amount of swelling and the interval which had elapsed since the accident. The bones being in good position in the antero-posterior view the tube was adjusted so that a lateral view could be obtained. This being also satisfactory splints were applied. By periodical fluoroscopy the progress of the fracture was followed without disturbing the limb. Recovery was perfect. In a second case a man, aged 38 years, fell from a height of eight or ten feet on to the right hand. Fluoroscopy showed fracture of both bones of the forearm about three inches above the wrist with considerable displacement of the fragments. The arm was placed on a wooden table. The x-ray tube was placed beneath the table and the fluoroscope was adjusted above the fracture. Every movement of the fragments could be followed while the ends were being brought into apposition, which was done with little manipulation and without much pain. Splints were applied and a final examination was made to see that the bones were in good position. The patient did not return for examination as directed but it was subsequently ascertained that he worked well with the arm. In a third case a soldier, aged 22 years, while scuffling was thrown to the ground on his arm, sustaining apparently a painful bruise. Being unwilling to be placed on the sick-list he did not come under observation until four days after the accident, when his arm was very swollen and painful. Radioscopy showed an oblique fracture of the radius above the lower third with overriding. The same method was adopted as in the second case with excellent results.

THE EDUCATIONAL TREATMENT OF YOUNG EPILEPTICS.

A PRACTICAL paper on the subject of the educational treatment of young epileptics—a matter of special interest in view of the prospect of systematic school provision being made for epileptic children in accordance with recent legislation—is contributed by Dr. G. E. Shuttleworth to the October number of the *Journal of Mental Science*. The Charity Organisation Society appointed a committee in 1890 to consider and to report, amongst other things, on the public and charitable provision made for the care and training of epileptic persons and a report embodying the conclusions arrived at was issued in 1893. Later the Government appointed a departmental committee to inquire and to report (*inter alia*) as to the provision of suitable elementary education for epileptic children, and this committee reported to the Board of Education in 1898. The outcome was an Act of Parliament passed in 1899 "to make a better provision for the elementary education of defective and epileptic children in England and Wales." This Act was taken advantage of by the London School Board for a complete official examination of all the epileptic children of school age known to their officers and the cases were accordingly examined by Dr. Shuttleworth. Of the total of 470 epileptic cases examined 17 per cent. seemed fit to continue in normal schools, 27·5 per cent. were found to require the education provided in the "special centres" for defective or feeble-minded children, 15·5 per cent. seemed unfit for any education, requiring only medical and nursing care, while 40 per cent. "required to be cared for and taught in a residential school for epileptics." This last class included children in whom fits were so frequent or so severe as to incapacitate them from attending an ordinary school on account of the disturbance of discipline involved, but who were capable of education. Apart from the action taken by elementary school authorities there exist in England certain voluntary associations for promoting the welfare of epileptics, including children. The oldest and largest institution in England is that of Maghull, near Liverpool, now containing 200 patients of all ages and social ranks. A branch establishment of the same is devoted to the care and education of epileptic children. Other institutions of a like nature include Lady Meath's Home for Epileptic Women and Girls at Godalming; the Lingfield Training Colony, Surrey; the Chalfont Colony; and a few others. The actual provision for epileptic children of the elementary schools in England should be capable of dealing with not less than 3000 children. The number actually provided for is less than 200. "Many epileptic children for lack of special provision languish in the infirmaries or imbecile wards of workhouses or are relegated, if any dangerous symptoms present themselves, to the county lunatic asylums. Of course, insane epileptic children are properly placed in the latter but appropriate training in well-organised residential schools would tend

to prevent mental deterioration in many cases." Proper institutions for epileptic children provide methodical occupation and manual training, open-air games not involving risk, and daily school instruction. Thus at the Craig Colony, New York, there is a regular school establishment, each young patient capable of instruction attending two and a half hours daily, girls in the morning and boys in the afternoon. Female teachers are employed and physical and manual training form a large and important part of the school exercises. Epileptics are liable to periodic or irregular exacerbations of their illness, says Dr. Shuttleworth, and their continuous improvement in schools is not to be expected; but in a considerable minority of cases much improvement occurs in institutions of the colony and school type. Hence epilepsy *per se* should not be regarded as a disqualification for education. "It is obvious that the education of epileptic children should be medico-pedagogic, the doctor and the teacher working hand-in-hand. The school time-table must be a matter of medical concern. The lesson periods should be shorter and the intervals of repose longer than those appropriate for normal pupils of the same age. Physical exercise and manual occupation should be judiciously interwoven with lessons requiring more abstract mental application. Instruction and occupation should be given out of doors and practical gardening (horticultural and agricultural work) should form part of the school curriculum." A wise extension of such institutions would enable the country to cope with the mass of epilepsy which at present is so widely distributed.

CARDIAC COMPLICATIONS OF DIPHTHERIA.

IN the *Boston Medical and Surgical Journal* of Oct. 20th Dr. F. W. White and Dr. H. H. Smith have published a clinical study of 1000 cases of diphtheria treated in the Boston City Hospital in which the condition of the heart was particularly observed. Their results are of interest, as they show a much higher proportion of cardiac murmurs (94 per cent.) than has been found by other writers. The patients were principally children. One-fourth of the cases were severe and over one-half of these—namely, 132—were fatal. About one-half of the deaths were due to broncho-pneumonia following tracheotomy or intubation and about one-fourth were due to cardiac complications. All the murmurs were systolic except those in a few cases of chronic heart disease. They were loud and sometimes musical. They were usually heard at the apex, frequently transmitted to the axilla, and generally associated with accentuation of the pulmonic second sound. The majority were associated with irregular action of the heart and outlasted the fever. It was therefore concluded that they were not functional. They developed in the first few days of the illness and they lasted several weeks at least. Five or six patients were examined eight or ten months after leaving hospital. All had murmurs and two had cardiac enlargement and irregularity with a weak first sound, indicating probably chronic myocarditis. In about 35 per cent. of the cases the heart was irregular at the time of discharge. Pathological researches have shown that such murmurs are due to mitral insufficiency from changes in the heart muscle or in its innervation. Endocarditis and pericarditis are very rare complications of diphtheria. Cardiac enlargement was infrequently found, contrasting with the observations of Dr. D. B. Lees. Dr. White and Dr. Smith also failed to confirm his views as to the frequency and importance of acute cardiac dilatation and syncope. In almost all the fatal cases there was gradual cardiac failure. There were three types of cases. In the first and most serious there were gallop rhythm, vomiting, epigastric pain, and tenderness, and the majority were fatal in two or three weeks. The second type lasted weeks or months with a rapid regular or irregular heart which gradually became normal. The third type was very rare. Its main feature was a slow pulse at the end of the second or the beginning of the third week. There were three cases of this type which were all fatal. In the treatment rest in bed and nursing were considered most important and drugs were of little use.

CHRISTIAN SCIENCE AND "SOCIETY."

AT Ryde on Oct. 31st an inquest was held upon the body of Lieutenant-Colonel Calvert Daw Stanley Clarke of Ryde who had died at the age of 74 years. Mr. F. J. Wadham, who had made a post mortem examination of the deceased, attributed death to pleurisy with effusion, which resulted in cardiac failure due to pressure, there being two pints of fluid in the pleura. He further explained to the jury the urgent need for medical intervention in such a case if death was to be averted. No medical man, however, had been called in, the wife of the deceased having contented herself with summoning, on the day before death took place, Captain Douglas Baynes, of Clanricarde-gardens, Bayswater, a gentleman who said in the witness-box that he "had undertaken Christian Science work." He added that the deceased, though not a member of the "Christian Science Church," fully agreed with its teaching. Captain Baynes, who had apparently accepted the task of healing his friend by "Christian Science" methods, had noticed a difficulty in breathing when he first saw him and was present at his death on the following morning. It did not occur to him, he said, to invoke the assistance of a medical man. The jury added to their verdict, which was in accordance with the medical evidence, a rider deploring the fact that medical aid was not called in, but beyond this were, of course, powerless. Captain Baynes and the widow of the deceased, however much they may have failed in their duty towards him, did not do so in a manner punishable by law. Persons of the class of Captain Baynes can continue to allow lives to be thrown away and to encourage victims to neglect serious illness without any fear of the dock. Fortunately the victims of this egregious craze are mostly drawn from the educated classes in which the saner members of a family are likely to hear of the illness of a relative and to intervene before it is too late. Moreover, the faith of the victims of a society fad, however staunch in time of health and when the sickness of others only is the topic of discussion, does not always endure to the extent of dying in the effort to prove that bodily illness is only the creation of a diseased imagination.

THE EVOLUTION OF THE NURSE.

"ANY French medical man who penetrates into the London hospitals cannot but be immediately struck by the numbers, activity, cleanliness, and elegant simplicity of the English nurses. It is manifest that they are recruited quite otherwise than in France and that their early education and instruction are far superior to that of the majority of our nurses." Thus writes Dr. Apert in the *Bulletin Médical* of Oct. 29th, his article forming one in a series headed "Une Visite Express aux Hôpitaux de Londres." The compliment is deserved but we cannot help wondering what our late French visitors would have thought had they visited us in the days of the last great *entente cordiale* when the Emperor Napoleon was still Prince President. In those far-off times hospital nurses, though existent, were few in numbers and of a far lower social class than at present. Quite unconsciously their advocate and defender, John Flint South, confesses to this in "Facts relating to Hospital Nurses," published as lately as 1857. He tells us, for instance, that certain venerable sisters in the wards of St. Thomas's Hospital were treated by the visiting medical men exactly as

we should treat upper servants. South tacitly admits that they were worthy untrained people of a low social class, and with beer as a perquisite, whose chief merit lay in long service. The "nurses" proper corresponded in his time to our ward-maids. A sister, a night nurse, and a day nurse were considered enough for one ward. Things had not, indeed, advanced very far since Howard, writing in 1788, described the earliest hospital nurses at St. Bartholomew's Hospital, where even at that distant date each ward boasted its sister and nurse. These earliest nurses were the ancestresses in office of those famous old types, Nurse "Accident" and Nurse "Job," celebrated at Guy's Hospital as long ago as South's student days in 1817. Charles Dickens was doubtless exaggerating when he painted the picture of Mrs. Gamp, but he depicted a type sufficiently accurate for his purpose, which was its suppression. South directed his pamphlet against a scurrilous libel in which nurses were variously designated as "meek, pious, saucy, drunken, or unchaste, according to circumstances or temperament!!!" The pamphlet really required no answer, but South's rejoinder was effective enough.

THE ROYAL SANITARY INSTITUTE.

A SESSIONAL meeting of the Royal Sanitary Institute will be held in the Guildhall, Nottingham, on Saturday, Nov. 26th, at 11 A.M., when a discussion on the "Present Day Aspect of Conservancy Systems" will be opened by Dr. Philip Boobbyer, the medical officer of health of the city and county borough of Nottingham. In the afternoon visits will be made to municipal undertakings illustrative of sanitary practice and administration. The institute also gives notice of a conference on school hygiene which will take place in the University of London by permission of the Senate from Feb. 6th to 9th next year. Sir Arthur Rücker, F.R.S., Principal of the University, has consented to act as president and will give his presidential address on Tuesday evening, Feb. 6th. On Feb. 7th the subjects to be dealt with are the physical and mental development and physical inspection of scholars. On the following day the subjects to be discussed are the building and equipment and the sanitary inspection and control of schools. On Feb. 9th the subjects to be considered are the training of teachers and of scholars in hygiene. An exhibition of school building and furnishing appliances will be held in connexion with the conference in the university. Tickets and further particulars can be had on application to the Secretary, Parkes Museum, Margaret-street, London, W.

THE medical officer of health of the Cape Colony states that for the week ending Oct. 15th the condition of plague in the colony was as follows. In human beings the number of cases of plague discovered was 0, but plague-infected rodents were found at Port Elizabeth and at East London. Of 1097 rodents examined during the week in the Cape Town harbour board area and in the Cape Town municipal area none was affected with plague. As regards the Mauritius, a telegram from the Governor received at the Colonial Office on Nov. 4th states that for the week ending Nov. 3rd there were 16 cases of plague and 13 deaths from the disease.

ON Wednesday, Nov. 16th, an initial conference will be held in the London Education Offices to consider the possibility of establishing for England a national or central school for physical education on the lines of the Royal Central Institute of Sweden. The Lord Bishop of Bristol will preside and, amongst others, Sir William Church, Sir William Broadbent, Sir Lauder Brunton, and the President of Magdalen College will attend. The scheme will be described by Miss Theodora Johnson, principal of the Swedish Institute, Clifton.

A SPECIAL meeting of the Ophthalmological Society was held on Nov. 3rd, Mr. J. Tweedy, the President, being in the chair. The Nettleship medal awarded by the society was presented to Mr. J. Priestley Smith, F.R.C.S. Eng., by the President in a complimentary speech, to which Mr. Smith replied, expressing his thanks and appreciation. The Bowman Lecture on the Progressive Evolution of the Visual Cortex in Mammalia was then delivered by Dr. F. W. Mott, an abstract of which we hope to publish shortly.

WE have received a cablegram from Muktesar in the Punjab stating that Dr. A. Lingard and Dr. Jennings have discovered trypanosoma in the peripheral circulation of human beings. This is a statement of considerable interest as hitherto the chief investigations in regard to these parasites have been made in reference to sleeping sickness and the trypanosomes were only found in the blood of those natives residing in areas in which that disease was endemic.

THE next dinner of the Glasgow University Club, London, will be held on Wednesday, Nov. 23rd, at 7 P.M., at the Trocadéro Restaurant, Piccadilly-circus, W., when the chair will be taken by Dr. James Brisbane. Members intending to be present should send their names to the honorary secretaries, 63, Harley-street, London, W.

A CHRISTMAS course of lectures adapted to a juvenile audience will be delivered by Mr. Henry Cunynghame, C.B., at the Royal Institution on Ancient and Modern Methods of Measuring Time (experimentally illustrated). The dates of the lectures are Dec. 27th, 29th, and 31st, 1904, and Jan. 3rd, 5th, and 7th, 1905.

THE Harben lectures of the Royal Institute of Public Health will be given in King's College, London, on Friday, Nov. 25th, Dec. 2nd, and Dec. 9th, at 5 P.M., by Professor John McFadyean, principal of the Royal Veterinary College, London, on Glanders. All persons interested are invited to be present.

THE annual dinner of the Harveian Society of London will be held at the Monico Restaurant on Thursday, Nov. 24th, at 7 for 7.30 P.M. The chair will be taken by the President, Dr. C. Theodore Williams.

THE next session of the General Medical Council will begin at 299, Oxford-street, London, W., at 2 P.M. on Tuesday, Nov. 22nd, Sir William Turner, K.C.B., being in the chair.

THE death is announced, at the age of 75 years, of Dr. Achille Vintras, physician to the French Embassy and senior physician to the French Hospital in London.

GLASGOW OPHTHALMIC INSTITUTION: POST-GRADUATE COURSE OF LECTURES AND DEMONSTRATIONS.—This course of lectures was inaugurated on Nov. 1st. Mr. Hedderwick, the chairman of the managers of the Glasgow Royal Infirmary, presided, and expressed his gratification at the large attendance of medical men as indicating that the institution was not only a valuable agent for the relief of the suffering poor but was also fulfilling an educative purpose in the city. Dr. A. Maitland Ramsay gave an instructive address on Eye-strain and its Consequences. The lecture was illustrated by lantern slides, microscopic preparations, actual specimens shown in the opaque projector, and by Kuhne's optical box.

THE EVOLUTION OF MAN'S DIET.

BY HARRY CAMPBELL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE NORTH-WEST LONDON HOSPITAL AND TO THE HOSPITAL FOR NERVOUS DISEASES, WELBECK-STREET.

VII.[1]

THE PRE-CIBICULTURAL COCTURAL PERIOD (*Continued*).

THE period during which man cooked his food but had not yet learnt to increase its supply by cultivating the vegetable kingdom and breeding animals we may designate the pre-cibicultural coctural period. Happily, there survive several peoples still in this very primitive stage and he must indeed have a dull imagination who when studying them is not caught by the weird fascination of his subject, for from such or such-like have all of us descended—from naked peoples spending most of their working life in the food quest, without metals or pottery, and having only the most rudimentary beginnings of any of the arts and manufactures. Through them we gain an insight into the kind of life led by our own ancestors, and not the least interesting among the items of study which they afford us are their dietetic customs, hitherto strangely overlooked by ethnologists.

The present-day pre-cibiculturists, as might be expected, are to be found for the most part in out-of-the-way parts of the world. They are met with in regions where they have been for long ages cut off from their fellow-beings, as is the case with the Australian aborigines, the only recently extinct Tasmanians, and the Andamanese; or in barren and infertile lands, as exemplified by the Esquimaux in the far north of America and the Fuegians in the southernmost part of the same continent; or again in secluded and inaccessible regions, whither they have been driven by their more powerful neighbours, as in the case of the Bushmen and the Forest pigmies of South Africa, the pigmies of the Philippine Islands and the Malay Peninsula, the Veddahs of Ceylon, the hairy Ainus in the islands to the north of Japan, and the Californian Indians on the western coast of North America; finally, there are pre-cibiculturists like the Botocudos who owe their backwardness neither to their geographical isolation, the barrenness of their lands, nor the aggressiveness of their neighbours, but rather to their wild and adventurous nature which prefers the excitement of the chase and the fight to the humdrum life of daily toil.

These various pre-agriculturists are fast becoming modified, if not actually exterminated, by contact with the white man, but nevertheless even yet retain many of their primitive dietetic customs.

ANIMAL FOOD OF PRESENT-DAY PRE-CIBICULTURISTS.

With the exception of certain kinds which are by some tribes tabooed for superstitious reasons every species of animal food is acceptable to pre-cibicultural man. Thus we read that "hardly any animal food, from a human being to a giant-fly," is refused by the Australians; that "all kinds of animal foods except serpents are acceptable" to the Botocudos; and that the Philippine Negritoes "live on everything that crawls, runs, swims, or flies." This will appear the less surprising when we reflect what a large proportion of that valuable nutriment, proteid, animal tissue contains. As instances of the tabooing of particular animal foods certain customs of the Veddahs and the Australians may be referred to: the former taboo elephants, bears, leopards, jackals, lizards, bats, and snails; the latter have a surprisingly complex code of restrictions which is not, however, binding on any under the age of nine or ten years: in some of their tribes all but old people are forbidden to eat the flesh of the emu; one tribe taboos opossum, kangaroo, dog, and the honey of the small bee; another allows the emu and eels only to full-blown warriors and forbids eggs to young men and young women; and many similar restrictions are in force among them. The Esquimaux taboo the raven.

In the accompanying tables are enumerated some of the varieties of animal food consumed by the various pre-cibiculturists. They are constructed from information derived from the writings of travellers, but since very few appear to have carefully studied, much less described, the food of the primitive peoples they have visited there are necessarily many omissions. The omission of particular classes of animal foods in connexion with any given pre-cibicultural people—e.g., of fish, birds and insects in the case of the Botocudos—must not, therefore, be taken to mean that these do not enter into their dietary. The more thoroughly the food of the pre-cibiculturists is studied the more clearly does it appear that every variety of animal food that can be obtained is made use of, save only such as may be interdicted on superstitious grounds.

In glancing at Table I. one cannot but be struck by the fact that, with the exception of turtles, all the varieties of animal food there recorded enter into the dietary of the great apes. It will be seen that food of these kinds appears to be more in favour among the Australians and Californians than among the other pre-cibiculturists, but this is doubtless because we possess more detailed information of their food than of the others. The Esquimaux cannot procure these foods, and they are probably not available in any large amount for the Fuegians, but with these exceptions we may conclude that they are sought after by all the pre-cibiculturists, just as they are by the anthropoids. White ants are in great demand and considerable ingenuity is displayed in catching these and other insects; the Californians catch ants by placing upon the ant-hill a piece of bark or fresh hide on to which the ants swarm, and they are then brushed off into a bag; grasshoppers are caught in nets, or by being driven into pits either by beating the surrounding grass or setting it on fire. Grubs are eagerly sought after; nor are they to be despised as sources of nutriment, for they often attain a great size; the Australians obtain from the gum-tree one that is "six inches long and as thick as the little finger," and they devour centipedes of equally large proportions. What I have for convenience grouped under the class of reptiles—viz., frogs, toads, lizards, and snakes—are devoured when available by all the pre-cibiculturists; the Botocudos are, however, said to taboo serpents; the Californians have a plan of dragging lizards from their holes by means of a hooked stick.

Coming now to Table II. it will be observed that the most notable *terrestrial mammal* on which the pre-cibiculturist feeds is man himself. Cannibalism seems to be, or to have been, most prevalent among the Australians of all the various pre-cibicultural peoples. According to Bicknell, who writes as late as 1895, the natives of North Queensland resort to it as readily "as a duck takes to water," and Carl Lumholz writes in the same strain, though there can be but little doubt that this terrible practice did not reach its acme until the early agricultural period was reached and intertribal fighting became rampant. The Californians do not appear to have been genuine cannibals, though they were in the habit of devouring portions of the body of a renowned enemy slain in battle, in the belief that they might in this way acquire something of his courage. The Botocudos and the Fuegians were certainly cannibalistically disposed, the latter in seasons of distress eating their old women first and their dogs last, the human victims being suffocated by their own relations over the smoke of a fire.

Terrestrial mammals furnish the chief portion of the food of pre-cibiculturists, the deer, antelope, and elk being the favourite objects of the chase. The Australians depend mainly for their animal food upon the kangaroo and other marsupials; the Veddahs, Philippine Negritoes, and the Andamanese (the latter especially) hunt the wild pig; the monkey is eaten by the Veddahs and the Malay Negritoes. As might be expected from the difficulty of procuring them, the carnivora seldom serve as food, though the Bushmen are said to eat the lion and the hyæna.

The methods of hunting are many and ingenious, the chief weapons employed being the spear, the club, and that prince of primitive weapons—the bow and arrow, the Australians, who are the only pre-cibicultural people ignorant of it, employing in its stead the spear-thrower and the boomerang. The Veddahs use enormous bows demanding great strength of arm. The Californians, the Bushmen, and the Forest pigmies of Africa and the Philippine Islands poison their arrows, for which purpose the first mentioned use putrid liver or the poison of the rattlesnake, and the Bushmen snake poison which they are said to mix with the juice of the deadly euphorbia. The Californians overcome the larger game by closing in upon them and clubbing them to death. Sometimes the huntsman deceives his quarry by masquerade, the Californian stalking the antelope

[1] Nos. I., II., III., IV., V., and VI. were published in THE LANCET of Sept. 10th (p. 781), 17th (p. 848), 24th (p. 909), Oct. 1st (p. 967), 15th (p. 1097), and 29th (p. 1234), respectively.

TABLE I.—ANIMAL DIET OF EXISTING PRECIBICULTURISTS.

—	Reptiles.	Insects.	Grubs, &c.
Australians.	Turtle, frogs, toads, lizards, and snakes.	Scorpions, moths, locusts, grasshoppers, sand-flies, ants, centipedes, and caterpillars.	Grubs (from grass tree) and ants' eggs.
Californians.	Toads, lizards, and snakes.	Locusts, grasshoppers, crickets, ants, and pelicull.	Grubs (from decayed wood), snails, and earthworms.
Botocudos.	Frogs and snakes.	—	Grubs and worms.
Pigmies, Congo Forest.	Reptiles.	Ants and other insects.	Bee grubs and larvæ of beetles.
Andamanese.	Turtles and their eggs, and sea-snakes.	Insects.	Grubs and larvæ (e.g., of great Californian beetle).

TABLE II.—ANIMAL DIET OF EXISTING PRECIBICULTURISTS.

—	Land mammals.	Water mammals.	Birds.	Fish.	Shell-fish.
Australians and Tasmanians.	Man, kangaroo, opossum, wallaby, dingo, wombat, bandicoot, iguana, rabbits, ferrets, rats, and mice.	Whale and seal.	Emu, wild turkey, duck, parrot, crows, kites, hawks, owl, crane, snipe, quail, lark, &c.	Many kinds.	Both fresh-water and sea-water oyster tabooed.
Californians.	Deer, antelope, elk, coyote, wild cat, beaver, skunk, rabbits, squirrel, rats, and mice.	Whale and seal.	Many kinds.	Notably salmon.	Mussels and clams.
Botocudos.	Man and larger game.	—	—	—	—
Fuegians.	Man and llama.	Seal, porpoises, and otters.	Several kinds.	—	Shell-fish and sea eggs.
Esquimaux.	Reindeer, musk ox, bear, fox, hare, and dog.	Whale, seal, and walrus.	Different kinds—e.g., ptarmigan.	Various kinds—e.g., salmon.	—
Bushmen.	Antelope, zebra, quagga, hippopotamus, hyæna, lion, smaller game, and hedgehog.	—	Ostrich.	—	—
Andamanese.	Pig, iguana, bats, and rats.	—	Pigeons and jungle fowl.	Many kinds.	Molluscs.
Philippine Negritoes.	Deer and wild pig.	—	—	—	—
Malay Negritoes.	Deer and monkey.	—	—	Many kinds.	—
Veddahs.	Elk, deer, pig, monkey, iguana, pangolin, and ant-eater.	—	—	—	—

by donning its horns, and the Bushman when hunting the ostrich bedecking himself with ostrich feathers and artfully painting his legs in imitation of that bird. Traps too numerous to mention are employed by the various pre-cibiculturists: a favourite method of trapping the larger game, such as deer, is by digging in their trail pits sometimes from 10 to 12 feet deep, which with the primitive implements at their disposal—often mere fire-hardened sticks—is no light task; the Esquimaux trap reindeer by digging pits in the snow. It is noteworthy that all the pre-cibiculturists employ the dog in the hunt,[2] this faithful creature being much the earliest animal domesticated by man. How remote is the time of its first domestication is shown by the fact that it does not belong to the fauna of Australia and must therefore have been brought into that country by the primitive immigrants. We can imagine, with Payne, how the wild precursors of the domesticated animal may have followed the primitive huntsman about on the chance of picking up the remains of animals killed in the hunt, and how in this way they gradually came to make friends with man who would have little difficulty in capturing the pups and training them to the hunt; this stage reached, artificial breeding would easily follow.

Aquatic mammals.—Among the Esquimaux aquatic mammals, especially the seal, walrus, and whale, constitute the chief source of food. They get close to the seal by cunningly imitating its movements, then kill it with the spear or harpoon; in their seal hunts they display the most astonishing patience and persistence, and even in the coldest weather are ready to watch "for one hour or fifty" over a seal-hole; the Fuegians also kill seals and porpoises in considerable numbers and to a less extent the otter, hunting the former animal in canoes by the aid of dogs and spears.

Birds.—Owing to the difficulty in procuring them birds do not enter so largely into the dietary of pre-cibicultural man as do mammals. Only in the case of the Australians do my notes give a list of the various kinds of birds used as food. The Bushmen hunt the ostrich. Birds are procured in various ways: the Fuegians stone them with remarkable accuracy of aim, shoot them with the bow and arrow, or catch them while roosting; the Veddahs watch birds to their nests and take them at night, or catch them with bird-lime; a favourite method of capturing birds among the pre-cibiculturists—e.g., Californians, Esquimaux, and Australians—is by netting; the Californians entice the birds to the net by means of a decoy; the Australians catch wild duck by stretching a large net across a river and then driving the birds up stream into it.

Fish.—As might be expected, all pre-cibicultural coast tribes, such as are met with, e.g., among the Fuegians and the Ainus, subsist largely on salt-water fish. Inland tribes also procure fresh-water fish, of which the most important is salmon, especially among the Californians and Esquimaux; there are times when the rivers of California are actually "darkened with the swarms of salmon." The modes of procuring fish are various: the Australians and Californians employ nets, the former making them of woody fibre and the latter of rushes or twigs; the Fuegians use fishing lines, as do also the Australians who make their lines of "rushes, or of the roots of a flag boiled, chewed, and then twisted by the hand"; peoples as widely separated as the Californians and the Veddahs procure fish by somewhat similar methods, the former "poisoning" them by impregnating the water with soap root or some such substance, and the latter "stupefying" them by means of a certain fruit or bark; the Esquimaux procure salmon by building a wall of stones at half tide round the outlet of a small salmon stream and spearing the fish when the tide ebbs; the Australians, Californians, and Andamanese also spear fish.

Shell-fish.—Both fresh-water and salt-water shell-fish, but especially the latter, are eagerly sought after by the pre-cibiculturists. Clams are considered a great delicacy by the Californians who display great skill in diving for them. The Fuegians also are expert divers, both sexes diving for sea-eggs. It is curious that oysters should be tabooed by the Australians.

METHODS OF PREPARING ANIMAL FOOD AMONG THE PRE-CIBICULTURISTS.

Animal food is not infrequently eaten raw and is rarely

[2] The Andamanese alone among the pre-cibiculturists were without the dog when first known to the white man. There is no evidence that the dog was known to the palæolithic man of Europe.

more than very partially cooked by primitive peoples. The Esquimaux, as already stated, derive their name from their raw flesh-eating propensities: frozen flesh they never hesitate to eat raw. When a cetaceous animal is killed they often cook it by means of the fuel afforded by the blubber, while the deer and musk ox, not providing the necessary oil, are more usually eaten raw. The blubber attached to the skin of the whale and sea porpoise is eaten raw; raw whale skin is, indeed, regarded as the very "acme of deliciousness," so much so that an Esquimaux woman as a mark of special favour offered Captain Hall a piece of it, not, however, without having first carefully licked it all over to remove the dust! After a feast of raw seal the blubber and skin are first separated and the blood, which is regarded by the Esquimaux as specially precious, scooped out; the liver is then cut into small pieces and eaten with the blubber; finally, the ribs are sent round. The raw viscera of the ptarmigan are considered a great delicacy by the Esquimaux: a Greenlander who accompanied Nansen on a hunting expedition "devoted a day to tearing the entrails out of all the ptarmigans, but as they numbered more than a hundred he could not devour the whole on the spot and gathered up the remains for another feast."

The Veddahs devour raw animal food and in any case cook it but slightly, often merely scorching it over the fire. The Fuegians readily eat raw fish; one of them when given a live fish instantly killed it by biting it near the gills and quickly devoured the whole. Among some Australian tribes raw flesh is not objected to, though when time permits it is generally roasted on embers; after the heat has penetrated an inch or so the outer part of the joint is eaten and the remainder exposed to the fire for a few more minutes when it is again handed round; of other Australian tribes we read that some of the smaller animals are devoured in the raw state and that the larger ones are rarely more than partly cooked, meat being preferred "thoroughly underdone."

The Californians frequently eat fish raw and they cook their meat very imperfectly; they suck the blood of rabbits; a rat or rabbit they cook whole and devour after the outside has been merely charred, the inside remaining practically raw; of one tribe we are told that "they did not understand dressing food, but were accustomed to throw their game or other flesh, fish, birds, snakes, bats, or rats upon the fire and eat it, entrails and all, charred on one side and dripping with blood on the other. Lizards, snakes, grasshoppers, ants, are thrown alive on a dish containing hot embers and are tossed about until roasted."

The Bushmen sometimes eat their animal food raw and seldom do more in the way of cooking it than placing it on the fire for a short time. Farini tells of how he gave the offal of a sheep to some Bushmen and how they quickly ate it up raw, and again, how he saw a Bushman on his knees licking up the marrow which dropped from some bones a comrade was breaking with a hammer. The Borgandæ pigmies are said to eat their flesh raw. The Andamanese, who formerly ate their animal food half raw, now cook it thoroughly.

Grubs and insects are frequently eaten in the raw state by the pre-cibiculturists. "It was not a pleasant sight," observes a writer, "to see an Australian woman divest of wings and legs the gigantic fly (cicula) and then gobble it up alive."

The Australians have a horrible ritual of eating the raw flesh of their dead relatives. After the body is lowered into the grave a native, not related to the deceased, steps into it, cuts off the fat from the face, thighs, arms, and stomach, and passes it round for the mourners to partake of, with the object, so it is alleged, of dulling their grief, for surely it is difficult to feel poignant grief for one whose dead body you have tasted! Yet even this practice, horrible though it is, is surpassed in gruesomeness by the deeds of the ghouls who in many parts of Africa haunt the burial-places of the dead for the grim purpose of glutting themselves on the human corpse.

Though pre-cibicultural man generally adopts very simple methods in cooking his animal food, such as broiling it over a fire or in hot embers, he sometimes resorts to more elaborate processes. Thus the Australians, Californians, Bushmen, Andamanese, and probably other pre-cibiculturists, use stone ovens, the Australians reserving them, however, chiefly for the large game. Animal food is also stone-boiled by some pre-cibiculturists—e.g., the Californians and the Esquimaux. Other methods of cooking are sometimes employed—e.g., the Andamanese cook a pig by stuffing the eviscerated carcass with tasteless and inodorous leaves, setting the latter on fire and placing the carcass on burning logs till the bristles are singed and the skin scorched, when the meat is considered ready for consumption. The Bushmen prepare locusts by mixing the bodies divested of wings and legs with warm quagga or hyæna blood, or they dry them in the sun and grind them into a meal which they mix with honey and bake over a fire; the Californians in a similar way sun-dry and pulverise "caterpillars and other insects," and the fact that pre-cibicultural peoples so widely separated should prepare their food in this curious way suggests that the method was once widespread. The Andamanese wrap a number of insects and grubs in leaves, place the bundle in burning embers, and turn it from time to time until the contents are thoroughly cooked.

Methods of preparing animal food other than by cooking.—Slight decomposition of animal food by causing a solution of the connective tissue increases its digestibility and renders it more tender. Hence pre-cibiculturists often allow their animal food to decompose before eating it; many—e.g., the Veddahs—do not object to it "high;" others—e.g., the Esquimaux—sometimes eat it in a state of actual putrefaction, when it is known as "mikiak," one dish highly esteemed by them consisting of "rotten seals' heads."

We have seen that insects are dried in the sun both by the Bushmen and the Californians; in this state they can be stored for some time. Other animal foods are also sun-dried: the Semangs of the Malay Peninsula dry monkey and other flesh in the sun, when it becomes as hard as a board and is suitable for storage; the Ainus dry fish for a similar purpose. Another plan, widely adopted, of preserving animal food is to smoke it: the Californians store large quantities of smoked salmon; the Andamanese and certain Brazilian tribes also smoke fish for the purpose of storage, the latter game also. The Veddahs employ honey to preserve animal food: a hole is cut in a tree, filled with honey and flesh, and then stopped with clay. The Andamanese have a plan of packing the interior of a dry bamboo cane tightly with cooked meat, such as pork or turtle, then gently heating it over a fire until steam issues, when it is sealed with leaves and set aside; when the meat is required for consumption the cane is again placed over the fire, for these people eat their food very hot, a fact which, having regard to their beautiful teeth, is of some interest.

(To be continued.)

MALARIA IN ITALY IN 1903.

In a large volume of 902 pages, the fifth of the series, the Society for the Study of Malaria gives its annual report of the work carried out by it during the year 1903. The book comprises 45 articles by various authors whose results are reviewed and summed up in an article at the end of the volume from the pen of Professor Celli. A new feature in this year's report is the introduction of contributions from sister societies in other countries, thus rendering possible a valuable comparison with observations made in such widely separated malarial areas as the Dutch Indies, Erythrea, the Adriatic coast of Austria, France, Corsica, and Algeria. The report from the Russian society was not received in time to be included with these.

With regard to epidemiology the general character of the epidemic of 1903 was milder than that of 1902; indeed, since 1900 a gradual mitigation in severity has been observable in each succeeding year. As in 1902 there were several exceptions to this rule in various parts of Italy, notably in the lower parts of the communes adjoining the commune of Rome (Tivoli and Montecelio), in the Brindisino and in the Melfese, where the cases were this year unusually numerous and severe. In many of the southern communes the epidemic continued to preserve its usual deadly character, but it is satisfactory to note that in Ostia and on the lower reaches of the Anio, where the anti-malarial campaign has now been steadily prosecuted for years and which formerly were regarded as amongst the worst localities, there was a marked diminution in its extent and virulence.

There is no progress to report in the means of diagnosing latent malaria. The iso-agglutination test has been proved by Capogrossi to have no diagnostic value, since the blood serum in many other diseases and even in health often possesses the property of causing agglutination of the

red corpuscles. All that can be added to what we already know on this head is that when examinations made in successive years reveal no change in the variety of parasite and when the attack occurs at a moment which does not correspond to the incubation period of a fresh infection then there is a presumption that we have to do with a relapse and not with a primary infection. Professor Celli divides relapses into three groups for each of the principal types of fever: (1) true relapses occurring at an interval of a few days after recovery from the primary attack; (2) "short period recidives" or those following after a short interval of from a week to a month; and (3) "long period recidives" or those occurring at a long interval of from one or two months to more than a year. We may reckon the interval for the second group as approximately equal to the length of the period of incubation of tertian and æstivo-autumnal fevers but we never know how long the interval may be in the third group, especially in the case of æstivo-autumnal and quartan fevers. The problem of recidivity has received too little attention and outside of Italy (including Istria) does not appear to have been studied, yet it is undoubtedly of great importance in the epidemiology and prophylaxis of malaria.

It has been repeatedly noted in Italy that the proportion of anopheletes infected in even the worst malarial districts is always very small and it is not until the month of June or even later in the year that they are to be found. In Algeria the proportion of infected mosquitoes is reported by E. and E. Sergent to have been 1·66 per cent. in 1903, whereas the percentage of infected natives was as high as 48·5. Why this disproportion should exist has not been satisfactorily explained. Another obscure point is raised by the fact reported from Erythrea by Mozetti that there are vast areas of that country totally, or all but totally, without human inhabitants where it is yet possible to contract malaria by sleeping for one night only in the open. If the mosquito is the carrier of infection in these cases—and there is no reason to doubt this—how does that insect in its turn become infected? The same question has often been asked before but as yet no satisfactory answer has been found. The explanation when discovered may fill up an important blank in our knowledge of the extra-corporeal life of the parasite.

The question of whether any relation exists between the cultivation of beet and outbreaks of malaria has been answered by several observers in the affirmative. In places where the anopheles had never formerly appeared the cultivation of beet has attracted them in great numbers. The rice fields, too, although not invariably are usually malarious and aggravate the local causes predisposing to the production of fever, especially that of the æstivo-autumnal type. It is certain that where these fields have been suppressed malaria has diminished or even disappeared.

As to prophylaxis, in the first flush of enthusiasm following the discovery of the part played by the mosquito in the production of malaria it was hoped that the problem of prevention would speedily be solved. But experience has taught us that the question is a very complicated one and that not only the presence of the anopheles but a variety of other factors must be reckoned with and that to each cause must be opposed a corresponding prophylactic measure adapted both to the special case and to the particular place. Hence the combating of recidivity, the pre-epidemic treatment of malarial cases derived from previous epidemics, the administration of protective drugs, the destruction of mosquitoes, hydraulic and agrarian *bonification* of malarial zones—all of these have their separate or combined application according to the special circumstances of each individual case.

By means of drugs—quinine and the other cinchona alkaloids—the reports show that we may hope to reduce the recidivity of malaria but not to suppress it. Quinine if promptly and continuously administered has a very beneficial effect on relapses and also upon the "short-period recidives" (relapse occurring after an interval of more than a week and less than a month). If given daily in average prophylactic doses it may even mitigate and shorten the attacks of "long-period recidives" (relapse occurring after an interval of a month to a year or more), but in this latter class of case the recidivity may persist in spite of the boldest and most prolonged administration of quinine. Still less can we rely upon mixtures of arsenic and iron with quinine, and arsenic alone has no anti-malarial action whatever.

As to the pre-epidemic treatment, the so-called method of Koch, the experience of observers in 1903 has been no happier than in 1902. The method is ill-tolerated, expensive, and inefficient. On the other hand, Professor Celli claims that the method advocated by him of giving a moderate daily prophylactic dose of quinine (six grains for persons over ten years or three grains for children under ten years of age) to all the inhabitants of a malarial zone *during* an epidemic and therapeutic doses (from 18 to 20 grains for adults and half that amount for children) for seven or eight days in every case of fever is the most simple, inexpensive, and efficacious. Where circumstances do not permit of a daily dose being taken, two weekly ones of 15 grains each (on Saturday and Sunday evenings) are substituted. By far the best form of administration is in sugar-coated tablets of 20 centigrammes (three grains) each. According to Professor Celli the prophylactic doses mentioned have no poisonous effect, nor do they interfere with the action of curative doses should these be required by an access of fever. The statistics for 1903 show that of 19,021 persons subjected to prophylactic treatment on this plan 932, or only 5·6 per cent., contracted fever. The following table shows the marked diminution in fever cases in the Agro Romano consequent upon the employment of this method:—

—	Year.			
	1900.	1901.	1902.	1903.
Total number of persons under prophylaxis	—	1176	3853	17,506
Number of primary infections treated by the Red Cross Society	1716 (17 per cent.)	1263 (16 per cent.)	764 (7 per cent.)	320 (2 per cent.)
Number of malarial patients admitted to Santo Spirito	6186	4752	2750	2462

Admitting that the epidemic was in its spontaneously descending cycle in 1900 the decrease shown in the table is still much too large to be thus accounted for and must be ascribed, in greater part at all events, to the prophylactic treatment by quinine. The price of the salts of quinine as supplied by the State is capable of being still further reduced and if, in addition, use were made of the other alkaloids of cinchona bark, at any rate for prophylaxis—for which purpose they are well adapted and quite efficient—Professor Celli calculates that the daily cost per head of his prophylactic method would not amount to more than one and a half centesimi, or about 1 lira 90 centesimi (1*s.* 7*d.*), per head for the whole malarial season.

Whilst the method of prophylaxis by quinine is rapidly extending, that by mechanical protection remains restricted in its application owing to the practical difficulties attending its use. Its sphere of action lies mainly along the railways, in the barracks of the customs officials, in the houses of caretakers on the country roads, in the lodgings of those employed on public works, and in country houses inhabited by the better educated classes. It is difficult of application in military barracks and impracticable in the houses of the peasantry; and even in areas such as the Roman Campagna where the law made its use obligatory it has been found advisable to substitute for it prophylaxis by quinine. Where still employed, and especially when combined with the administration of quinine after Professor Celli's method, the same happy results were obtained as in former years.

The sale of quinine by the State is a new and enlightened departure in sanitary legislation of which Italy gives as yet the only example. It is organised under laws promulgated on Dec. 23rd, 1900, Nov. 2nd, 1901, June 22nd, 1902, and May 19th, 1904, and which will shortly be unified under one enactment. The preparation and sale of the quinine are conducted by the Ministry of Finance which already supplies the bisulphate and the hydrochlorate in the tablets above referred to, as well as in sterilised vials of solution for hypodermic injection. Shortly there will be ready for distribution other salts made up in the form of chocolates and similar sweetmeats for the use of children under three years of age for whom the tablets are too difficult to swallow. These tablets, &c., are supplied gratuitously through the country pharmacies to the peasantry not only for treating but also for preventing fever and at the end of the season have to be paid for—those for the peasants by the proprietors in proportion to the extent of their respective estates, and those for other workpeople by the manufacturers or contractors who employ them according to the quantity consumed. Quinine is also supplied to the communes and to the "Congregazioni di Carità" at a

reduced price and by them distributed gratuitously to the poor.

At the same time, and what is even more important, an active movement has been started for the purpose of educating the people on the subject of malaria. In this direction the State has also set a good example by applying the new methods of prophylaxis to all its employés, including not only railway men but all labourers engaged on Government work of any description. The various departments of the Government also give their aid to the propaganda—the Minister of Instruction by a circular to the school teachers on the prophylaxis of infective diseases and especially of malaria; the Minister of Finance by distributing a manifesto on State quinine and its uses; the Minister of Agriculture by instructions conveyed through the professors who fill the itinerant chairs of agriculture throughout the country; and the Minister of Posts and Telegraphs by means of the rural postmen. The Society for the Study of Malaria on its part has distributed many thousands of leaflets and pamphlets amongst medical men, teachers in the elementary schools, agricultural associations, farm labourers, &c., in malarious zones, explaining the nature of malaria, how it arises, how it may be prevented, and how it should be treated.

In these various ways, as well as by works of *bonification* in the unhealthy districts, a vigorous campaign against malaria is being prosecuted in Italy. The progress already made in these few years gives great encouragement to those engaged in this noble and philanthropic task—a task which they are fain to believe will eventually be crowned by success and the fulfilment of which will liberate their country from the terrible scourge under which it has suffered helplessly for centuries.

THE CENTRAL MIDWIVES BOARD.

THE members of the Central Midwives Board met on Nov. 3rd at 6, Suffolk-street, London, S.W. The chair was occupied by Dr. F. H. CHAMPNEYS.

The first business of the Board was the consideration of three cases *in camerâ*.

The scheme of examinations which has been considered from time to time by the Board has now been decided upon and the details are as follows:—

Examinations.—1. Every examination shall be partly oral and practical and partly written, and shall be conducted by not fewer than two examiners. 2. The first examination shall be held in July, 1905. 3. Thereafter the examination shall be held four times a year, or oftener if necessary, in London and the provinces, simultaneously, on the same papers. The Board reserves to itself the right to appoint one or more qualified medical practitioners as visitors of the examinations, both London and provincial. 4. The first provincial centres shall be: (*a*) Bristol, (*b*) Manchester, and (*c*) Newcastle-on-Tyne.

Examiners.—1. A list of examiners both for London and the provinces shall be prepared by the Central Midwives Board from those who are willing to serve and act when required by the Board. This list shall be subject to annual revision by the Board. Before such a list is formed applications for the post of examiner shall be invited by advertisement. 2. No examiner shall examine his own pupils. 3. A paper of directions to examiners shall be drawn up and issued to each examiner on his appointment. 4. The remuneration of an examiner shall be at the rate of 7*s.* for each candidate examined. 5. The examiners, both London and provincial, shall be invited to meet at the offices of the Central Midwives Board as often as may be necessary.

London examiners.—1. The arrangements for the London examinations shall be made by the secretary of the Central Midwives Board with such extra assistance as may be necessary. 2. The duties of the London examiners shall be: (*a*) To consider examination questions suggested by provincial examiners. (*b*) To set all the papers of examination questions both for London and the provinces. Two of the examiners, with the assistance of one of the medical members of the Central Midwives Board to be appointed for the purpose, shall undertake this duty in rotation. The remuneration of the examiners in respect of this duty shall be two guineas each. (*c*) To conduct the examination, written and oral, of all candidates presenting themselves for examination in London. (*d*) To report to the Central Midwives Board the result of each examination held in London as soon after the examination as possible.

Provincial examiners.—1. The examiners appointed by the Central Midwives Board to conduct the Board's examinations in a provincial centre shall assist the secretary of the Board in making the necessary arrangements for the examinations. 2. The duties of the examiners in each provincial centre shall be: (*a*) to conduct the examination, written and oral, of all candidates presenting themselves for examination at that centre; and (*b*) to report to the Central Midwives Board the result of each examination held at that centre as soon after the examination as possible.

Directions to examiners.—1. The paper shall consist of not fewer than six questions and the time allowed for answering shall be three hours. 2. Notes should be taken, either by the examiner himself or by a colleague, of the subjects upon which the candidate is questioned in the oral examination. 3. Fifteen minutes should be considered an average period for the oral examination of each candidate. 4. Examiners should avoid questioning candidates as to where and by whom they were trained, so as to avoid any suspicion of bias.

The Board adjourned to Nov. 24th.

MEDICINE AND THE LAW.

The Defence of Warranty.

AT Bow-street on Nov. 2nd the Aerated Bread Company, Limited, was summoned for selling milk from which 13 per cent. of its fat had been abstracted. The company relied on the statutory defence that the milk had been supplied to them under a contract by the Edwards Creameries, Limited, with a warranty as to its quality. The warranty was produced and it was further proved that the milk could not have been tampered with in transit. The charge was accordingly dismissed. A good many cases are disposed of annually in this manner and are lost sight of, but it would be more satisfactory if police-court proceedings against those giving the warranty always followed. Presumably they compensate those whom they have rendered liable to prosecution, but this is a private matter between the parties and not an equivalent for the prosecution of an offence at the instance of a public body when the persons who have been named can either repudiate the charge or be punished for it if guilty.

Prosecutions for Cruelty to Children.

Four charges of cruelty to, and neglect of, young children, heard by Mr. Gillespie at West Ham on Oct. 31st, resulted in the passing of two sentences of three months' imprisonment, one of two months, and another of one month. Only in one of these physical violence was alleged and it could not be proved that the accused, the step-mother of the child, had habitually ill-treated him; indeed, it was said that she had not, so that the sentence of one month's hard labour passed upon her may have been the reward of a more or less isolated act of ill-temper. The other three cases were of neglecting the children in a manner likely to cause them unnecessary suffering or injury to health. In two women were the defendants and one of them, the mother of three children, had attracted the attention of the National Society for the Prevention of Cruelty to Children in Buckinghamshire but had moved to Canning Town and so for a time evaded prosecution. In Canning Town she lived with her sister, the other woman charged with her, who, like herself, was described as a widow, and who was the mother of a child upon the body of whom an inquest was recently held. Both women were prostitutes. In the other case of neglect the father of a family of three children was the defendant and it was shown that when in work he could earn 30*s.* a week but that he had lost his place through getting drunk and that at no time did he supply his wife with sufficient money for the support of her and his children. He was sentenced to three months' hard labour. Cases of this kind are flagrant instances which the Society for the Prevention of Cruelty to Children can take up with a reasonable certainty of securing a conviction but it must not be forgotten that they are not isolated examples of a rare species of cruelty. It is the children of such parents as these, if they manage to survive their infancy, who swell the ranks of the physically and morally degenerate among the poorer classes.

ASYLUM REPORTS.

Nottingham City Asylum, Mapperley Hill (Annual Report for 1903).—The daily average number of patients resident during the year was 757, comprising 366 males and 39 females. The admissions during the year amounted to 160—viz., 77 males and 83 females. Of these 140 were first admissions. Mr. Evan Powell, the medical superintendent, states in his report that, though the number of actively suicidal cases was more than the usual amount, and there were numerous other patients of a feeble constitution liable to accidents, the year has passed without the occurrence of a serious accident or casualty. "It seems to me that, as the years go by, the character of the disease with which we have to contend," says Mr. Powell, "is becoming less and less amenable to treatment, and consequently our recovery-rate is diminishing. I mean by this that the proportion of incurable cases, such as congenital imbeciles, epileptics, general paralytics, organic dements, and senile cases, is steadily growing greater." Out of the 160 cases admitted during the year less than 60 per cent. presented any chance of recovery. Among the causes of insanity in the admissions were alcoholic intemperance, worry and anxiety, and hereditary predisposition. 18 cases were directly caused by drink, "and again I have to record the fact that almost as many women became insane in Nottingham from this cause as men." The number of cases discharged as recovered during the year amounted to 47—viz., 22 males and 25 females, or 6·2 per cent. of the average number resident. The deaths during the year amounted to 76, or 10 per cent. as calculated on the same basis. Of the deaths three were due to cancer, four to pneumonia, five each to renal disease and senile decay, six to pulmonary and other forms of tuberculosis, 11 to cardiac disease, 19 to general paralysis of the insane, and the rest to other causes. The recovery-rate was the lowest with two exceptions since the opening of the asylum. "This is entirely due to the fact of the very large proportion of hopeless cases admitted. The rate of recovery in the other asylums of the country is steadily coming down and undoubtedly from the same cause." There was an entire freedom from any of the common zymotic diseases but there were a few cases of colitis, one of which proved fatal. "Stringent precautions were taken at the beginning of the year to prevent the introduction of small-pox, which was so prevalent in the town of Nottingham, by adopting a complete system of revaccination and by stopping all visiting. These precautions fortunately proved successful." The Commissioners in Lunacy state in their report that the day rooms of the asylum were, notwithstanding the cold weather, warm and comfortable, that the dormitories were clean and well ventilated, that the bedding was in proper condition, that the wards were bright with flowers and decorations, that the patients appeared to be dressed neatly, and that the medical records and case-books were very well kept. Additional exit doors to be used in case of fire have been provided to the new ground-floor dormitories. The use of the temporary dormitory, in which 40 females sleep under supervision, should, say the Commissioners, be discontinued and a simple and cheap structure of brickwork substituted. The committee of management states in its report that the weekly charge for city patients remains at 10*s.*, that a new nine-inch water-main has been laid to a tank in the asylum grounds for the purpose of giving a sufficient water-supply in case of fire, and that the temporary female dormitory of wood and iron will be replaced by a permanent structure.

Belfast District Asylum (Annual Report for 1903).—The average number of patients resident during the year was 1021, comprising 484 males and 537 females. The admissions during the year amounted to 250—viz., 120 males and 130 females. Of these 204 were first admissions. Dr. William Graham, the medical superintendent, states in his report that it is worth noting that while there seems to have been a real increase of insanity during the past ten years, yet in the city of Belfast there has been a perceptible decrease during the past year. As far as the Belfast district is concerned the ratio of increase of the insane over that of the general population "is enough," says Dr. Graham, "to warrant the most searching investigation into its etiology and prevention." The greatest misconceptions prevail as to heredity as a cause of insanity. Man inherits, says Dr. Graham, not insanity but "an ill-adjusted nervous system, which may easily collapse beneath an unaccustomed strain. Of six children born with a neuropathic temperament, one or two may end their career in an asylum. ..... That heredity marks out the lines along which the chartered curses of humanity find easy progress we must believe. Many cases of insanity, if thoroughly studied, can be shown to be the result of causes long in operation in men and women. ..... Given, therefore, the fact and potency of heredity, all the more need exists to bring to bear [upon persons with a tendency to insanity] those educational and disciplinary influences which may modify or change the inherited condition." Alcoholism is a frequent cause of insanity but, says Dr. Graham, it is "more frequently the symptom of an already existing degeneracy of the brain and nervous system." The labourers and artisans of Belfast formerly made porridge, milk, and potatoes, with an occasional piece of fish, their staple food. Now instead of these they try to do their work by the aid of stimulants, such as tea, stout, and other artificial drinks. Excessive tea-drinking causes malnutrition, "especially in the case of children reared on this beverage, supplemented by white bread," says Dr. Graham, and such dietary develops "all kinds of neurotic affections which lay the foundation for the pathological evil we are trying to extirpate." The terrible increase of general paralysis is "difficult to speak of without seeming to exaggerate. During the years 1894 to 1897 the cases of general paralysis admitted to the asylum numbered only nine. In an equal number of years, 1900 to 1903, there were 57 admissions. This terrible scourge—the by-product of modern civilisation—is the result of causes that are preventable." The number of patients discharged as recovered during the year amounted to 85—viz., 44 males and 41 females, or 8·3 per cent. of the average number resident. The deaths during the year amounted to 83, or 8·1 per cent. as calculated on the same basis. Of the deaths, two were due to cancer, six to cardiac disease, seven to epilepsy, eight to senile decay, ten to pulmonary and other forms of tuberculosis, and 19 to general paralysis of the insane. The general health of the patients throughout the year has been good. The Inspector of Lunatics states in his report that the number of cases of general paralysis continues to increase. He adds that the management of the institution is marked by ability and good sense, that the wards were bright and comfortable, that the patients seemed contented and pleased with their surroundings, that the beds and bedding appeared clean and comfortable, that the medical case-books were very fully and accurately kept, and that useful and interesting pathological work was being carried on at the laboratory. Reference is made to the presence of idiot and imbecile patients in the wards of the asylum and the hope is expressed that the representations of the Board of Lunacy will result in the establishment of special institutions for such patients, in the form of training schools and farm colonies, in Ireland.

THE TRAINING AND SUPPLY OF MIDWIVES.

A MEETING was held at the Westminster Palace Hotel on Nov. 4th by the Association for Promoting the Training and Supply of Midwives. Princess Henry of Battenberg was present and the Archbishop of Canterbury took the chair. The object of the gathering was to place before the public the urgent need of training an adequate supply of midwives for the poor in order to meet the requirements of the Midwives Act of 1902.

In the beginning of the proceedings the ARCHBISHOP of CANTERBURY welcomed delegates from 15 county councils, 12 borough and town councils, and 12 district councils. He pointed out that for the most part those representatives were medical officers of health and their presence was the more valuable because they could instruct as well as assist the association in its objects, which were to extend the work carried on by the home opened at East Ham last year and by coöperation with local organisations to assist in meeting the requirements of the Midwives Act of 1902.

The following motion was then proposed by Dr. C. J. CULLINGWORTH and seconded by the Rev. C. SINGER:—

That in view of the urgent need that exists in this country for a supply of properly trained midwives who, in working in conformity with the provisions of the Midwives Act, 1902, will help to reduce the

present high mortality of lying-in mothers and their children amongst the poor, this meeting cordially supports the Association for Promoting the Training and Supply of Midwives and earnestly commends its work to the generous sympathy of all who are interested in the welfare of the country.

Dr. CULLINGWORTH, in moving the proposition, showed that there were about 450,000 births every year in England and Wales and about 60 per cent. were as a rule attended by women only. In 20 counties it was estimated that three-fourths of the present number of midwives did not care to work under the simple rules and regulations provided by the Midwives Act of 1902. Thus urgent need had arisen for the gap to be filled and for suitable women to be trained as midwives for the work.

Dr. F. H. CHAMPNEYS, chairman of the Central Midwives Board, speaking in support of the motion, reminded his audience that though the Midwives Act was not perfect it had enabled those interested in the matter to grapple to a certain extent with an extraordinarily difficult subject. The terrible loss that occurred at childbirth was not generally recognised before that Act had been passed and, unfortunately, he had to add that that loss of life continued unchecked, as the statistics of puerperal mortality, in spite of the introduction of antiseptic methods, did not show any improvement during the last 30 years. By the year 1910 there should not be such a person as a midwife of the old school existing, but that implied the obligation of care being taken that proper substitutes should be ready, for if the law refused to allow a woman to have a dirty midwife a clean midwife must be provided. It was obvious that unless adequately trained midwives were supplied the last state of the country would be, if possible, worse than the first. In regard to the question of State aid, Dr. Champneys reminded those present that the French physicians and surgeons who had lately visited London did not in any way consider that the absence of State aid over here was a matter to be deplored.

Mr. W. E. BAXTER, coroner for the Eastern District of London, dealt with the question by quoting the facts and figures that had come under his own notice. He showed how tetanus was caused by the ignorance of dirty midwives and declared that with proper skill and cleanliness the loss of life could be averted. A large number of the women acting as midwives for small payments had no qualification, no skill, and no training. Mr. Baxter's remarks contained a serious warning that unless properly trained midwives were supplied a great deal of suffering would be inflicted on the poor.

Among the other speakers who supported the motion was Dr. W. WILLIAMS, medical officer of health of the Glamorgan county council, who read a paper of considerable length, quoting figures and facts from the Milroy lectures which he delivered this year at the Royal College of Physicians of London on Deaths in Childbed, and which were published at full length in the columns of THE LANCET.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE annual meeting of the Fellows and Members will be held at the College in Lincoln's Inn-fields on Thursday, Nov. 17th, 1904, at 3 o'clock P.M., when the report of the Council will be laid before the meeting. Copies of the report can be obtained by Fellows and Members on application to the secretary and they can, if they wish, register their names so as to receive the report annually. We hope that a large number of Fellows and Members will be present as the proceedings are always interesting and, moreover, this is the only occasion on which the body corporate is called together each year. A copy of the agenda will be issued to any Fellow or Member who may apply for one on or after Nov. 14th.

LITERARY INTELLIGENCE.—Messrs. Kegan Paul, Trench, Trübner, and Co. will shortly issue a Manual of Fever Nursing. It is written by Professor Reynold Webb Wilcox, Fellow of the American Academy of Medicine and Professor in the New York Post-Graduate Medical School and Hospital. It deals with fevers, their causes and symptoms, and their treatment in accordance with the present state of practice.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 76 of the largest English towns 8774 births and 4372 deaths were registered during the week ending Nov. 5th. The annual rate of mortality in these towns, which had been 15·2, 15·9, and 15·0 per 1000 in the three preceding weeks, further decreased last week to 14·9 per 1000. In London the death-rate was 14·9 per 1000, being equal to the mean rate in the 75 other large towns. The lowest death-rates in these towns were 5·8 in Croydon, 6·4 in Hornsey, 7·0 in Walthamstow and in Barrow-in-Furness, 7·9 in Merthyr Tydfil, 9·5 in Smethwick, and 9·6 in Reading; the highest rates were 20·0 in Liverpool, 20·2 in West Bromwich, 20·5 in Rotherham, 21·6 in Middlesbrough and in Tynemouth, 21·8 in St. Helens, 22·0 in Stockton-on-Tees, and 23·8 in South Shields. The 4372 deaths in these towns last week included 425 which were referred to the principal infectious diseases, against 573, 532, and 394 in the three preceding weeks; of these 425 deaths, 109 resulted from measles, 106 from diarrhœa, 72 from diphtheria, 58 from scarlet fever, 44 from "fever" (principally enteric), 34 from whooping-cough, and two from small-pox. No death from any of these diseases was registered last week in Croydon, Walthamstow, Hastings, Bournemouth, Southampton, Handsworth (Staffs.), King's Norton, Aston Manor, Stockport, Wallasey, Warrington, Barrow-in-Furness, or Gateshead; while they caused the highest death-rates in Wolverhampton, Grimsby, Liverpool, Salford, Oldham, Burnley, Middlesbrough, and Stockton-on-Tees. The greatest proportional mortality from measles occurred in East Ham, Grimsby, Liverpool, Bootle, Burnley, Middlesbrough, Stockton-on-Tees, and Tynemouth; from scarlet fever in Northampton, Wolverhampton, West Bromwich, Huddersfield, and York; from diphtheria in Hornsey, Portsmouth, Derby, Bradford, Stockton-on-Tees, and West Hartlepool; from whooping-cough in Oldham, Sunderland, and South Shields; from "fever" in Rochdale; and from diarrhœa in Hanley, Walsall, Oldham, Burnley, Preston, Middlesbrough, and Merthyr Tydfil. One fatal case of small-pox was registered in Halifax and one in Leeds, but none in any other of the 76 large towns, and only one case of small-pox remained under treatment on Saturday, Nov. 5th, in the Metropolitan Asylums hospitals. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 2782, against 2516, 2687, and 2725 at the end of the three preceding weeks; 294 new cases were admitted during the week, against 377, 389, and 305 in the three preceding weeks. The deaths in London referred to pneumonia and diseases of the respiratory system which had been 194, 251, and 289 in the three preceding weeks, declined again last week to 285, but were 13 in excess of the number in the corresponding period of last year. The causes of 37, or 0·8 per cent., of the deaths in the 76 towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Bristol, Leicester, Nottingham, Manchester, Salford, Leeds, Newcastle-on-Tyne, and in 51 other smaller towns; the largest proportions of uncertified deaths were registered in Birmingham, Liverpool, Bootle, Bradford, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in eight of the principal Scotch towns, which had been 15·8, 16·5, and 16·7 per 1000 in the three preceding weeks, further rose to 17·8 per 1000 during the week ending Nov. 5th and was 2·9 per 1000 above the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·6 in Leith and 14·4 in Dundee, to 21·1 in Paisley and 21·7 in Greenock. The 588 deaths in these towns included 21 which were referred to diarrhœa, 17 to whooping-cough, nine to measles, eight to diphtheria, two to "fever," and one to scarlet fever, but none to small-pox. In all, 58 deaths resulted from these principal infectious diseases last week, against 75, 70, and 63 in the three preceding weeks. These 58 deaths were equal to an annual rate of 1·8 per 1000, which was 0·3 per 1000 above the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of

diarrhœa, which had been 31, 26, and 30 in the three preceding weeks, declined again to 21 last week, and included ten in Glasgow, five in Edinburgh, four in Aberdeen, and two in Dundee. The deaths from whooping-cough, which had been 17 and 16 in the two preceding weeks, rose again last week to 17, of which 12 occurred in Glasgow and four in Edinburgh. The fatal cases of measles, which had been five, eight, and six in the three preceding weeks, rose again to nine last week, and included seven in Aberdeen and two in Dundee. The deaths from diphtheria, which had been eight, eight, and four in the three preceding weeks, increased again last week to eight, of which three were registered in Glasgow and two in Edinburgh. The two fatal cases of "fever" showed a decline of three from the number in the preceding week. The deaths referred to diseases of the respiratory organs in these towns, which had been 76, 95, and 108 in the three preceding weeks, further rose last week to 119, and were 12 in excess of the number in the corresponding period of last year. The causes of 16, or nearly 3 per cent., of the deaths registered in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 21·6, 24·9, and 20·6, per 1000 in the three preceding weeks, rose to 21·5 per 1000 during the week ending Nov. 5th. During the past four weeks the death-rate has averaged 22·2 per 1000, the rates during the same period being 15·1 in London and 15·4 in Edinburgh. The 156 deaths of persons belonging to Dublin registered during the week under notice were six in excess of the number in the preceding week and included 13 which were referred to the principal infectious diseases, against 12, 18, and 16 in the three preceding weeks; of these, six resulted from measles, five from diarrhœa, one from scarlet fever, and one from whooping-cough, but not any from small-pox, diphtheria, or "fever." These 13 deaths were equal to an annual rate of 1·8 per 1000, the death-rates last week from the principal infectious diseases being 0·8 in London and 2·0 in Edinburgh. The fatal cases of measles, which had been six and four in the two preceding weeks, rose last week to six. The deaths from diarrhœa, which had been eight, 11, and six in the three preceding weeks, further declined to five last week. The 156 deaths in Dublin during the week included 40 of children under one year of age and 39 of persons aged 60 years and upwards; the deaths both of infants and of elderly persons slightly exceeded the respective numbers recorded in the preceding week. Five inquest cases and three deaths from violence were registered, and 52, or one-third, of the deaths occurred in public institutions. The causes of eight, or more than 5 per cent., of the deaths registered in Dublin last week were not certified.

VITAL STATISTICS OF LONDON DURING OCTOBER, 1904.

IN the accompanying table will be found summarised complete statistics relating to sickness and mortality in the City of London and in each of the metropolitan boroughs. With regard to the notified cases of infectious diseases it appears that the number of persons reported to be suffering from one or other of the nine diseases specified in the table was equal to an annual rate of 9·0 per 1000 of the population, estimated at 4,648,950 persons in the middle of the year. In the three preceding months the rates had been 6·1, 6·0, and 8·0 per 1000 respectively. The rates were considerably below the average in Kensington, Chelsea, the City of Westminster, Holborn, and the City of London, while they showed the largest excess in Hackney, Bethnal Green, Stepney, Bermondsey, and Camberwell. The notified cases of small-pox, which had numbered four in each of the two preceding months, declined last month to one; this case belonged to Wandsworth. The Metropolitan Asylums hospitals contained only one small-pox patient at the end of October, against 46, nine, and three patients at the end of the three preceding months. Scarlet fever showed a greatly increased prevalence during last month; among the various metropolitan boroughs this disease was proportionally most prevalent in Hackney, Bethnal Green, Stepney, Bermondsey, Camberwell, and Deptford. The number of scarlet fever patients in the Metropolitan Asylums hospitals, which had been 1764, 1801, and 2127 at the end of the three preceding months, had further risen to 2662 at the end of last month; the weekly admissions averaged 359, against 214 and 311 at the end of the two preceding months. The prevalence of diphtheria during October was slightly in excess of that recorded in the preceding month; the greatest proportional prevalence of this disease occurred in Hammersmith, Fulham, Shoreditch, Bethnal Green, Stepney, and Poplar. The Metropolitan Asylums hospitals contained 940 diphtheria patients at the end of last month, against 763, 818, and 871 at the end of the three preceding months; the weekly admissions averaged 139, against 124, 119, and 131 in the three preceding months. The prevalence of enteric fever, which had shown a continued increase during the four preceding months, declined again last month; this disease was proportionally most prevalent in the City of London, Bethnal Green, Stepney, Poplar, Bermondsey, and Greenwich. The number of enteric fever patients in the Metropolitan Asylums hospitals, which had been 67, 135, and 237 at the end of the three preceding months, had declined again to 225 at the end of last month; the weekly admissions averaged 25, against 15, 29, and 45 in the three preceding months. Erysipelas was proportionally most prevalent in St. Pancras, Islington, Shoreditch, Bethnal Green, Stepney, and Southwark. The 28 cases of puerperal fever notified during the month included six in Hackney, three in Fulham, three in Islington, three in Bethnal Green, two in Paddington, and two in Chelsea.

The mortality statistics in the table relate to the deaths of persons actually belonging to the various metropolitan boroughs, the deaths occurring in public institutions having been distributed among the several boroughs in which the deceased persons had previously resided. During the four weeks ending Oct. 29th the deaths of 5109 persons belonging to London were registered, equal to an annual rate of 14·3 per 1000; in the three preceding months the rates had been 13·6, 19·1, and 14·0 per 1000. The lowest death-rates in London last month were 8·9 in Hampstead, 10·3 in Wandsworth, 11·6 in Kensington, 11·9 in Lewisham, and 12·1 in Battersea; whilst the highest rates were 17·1 in Southwark, 17·2 in Bethnal Green, 17·9 in Stepney, 18·0 in Shoreditch, 20·5 in the City of London, and 20·7 in Finsbury. The 5109 deaths from all causes included 405 which were referred to the principal infectious diseases; of these, 74 resulted from measles, 29 from scarlet fever, 62 from diphtheria, 30 from whooping-cough, 40 from enteric fever, one from simple continued fever, and 169 from diarrhœa. The lowest death-rates from these diseases last month were recorded in Kensington, Chelsea, St. Marylebone, Hampstead, Islington, Holborn, the City of London, and Greenwich; and the highest rates in Finsbury, Shoreditch, Bethnal Green, Stepney, Poplar, Southwark, and Bermondsey. The 74 fatal cases of measles showed a decline of ten from the corrected average number; among the various metropolitan boroughs this disease was proportionately most fatal in St. Pancras, Finsbury, Shoreditch, Bethnal Green, Bermondsey, Wandsworth, and Lewisham. The 29 fatal cases of scarlet fever were 27 below the average number in the corresponding periods of the ten preceding years; this disease showed the greatest proportional mortality in Islington, Stepney, Poplar, Bermondsey, and Deptford. The deaths from diphtheria, which had averaged 179 in the corresponding periods of the ten preceding years, declined to 62 last month; among the various metropolitan boroughs this disease was proportionally most fatal in Paddington, Hammersmith, Shoreditch, Bethnal Green, Stepney, Poplar, Wandsworth, and Woolwich. The 30 fatal cases of whooping-cough were 31 fewer than the corrected average number; the greatest proportional mortality from this disease occurred in Paddington, Bethnal Green, Southwark, Camberwell, and Woolwich. The 41 deaths from "fever" showed a decline of 34 from the average number in the corresponding periods of the ten preceding years; among the various metropolitan boroughs "fever" was proportionally most fatal in Paddington, Stoke Newington, Hackney, Southwark, Bermondsey, and Greenwich. The 169 fatal cases of diarrhœa were 73 below the corrected average number; the greatest proportional mortality from this disease occurred in Paddington, Fulham, Finsbury, Shoreditch, Poplar, and Southwark. In conclusion, it may be stated that the aggregate mortality in London last month from the principal infectious diseases was nearly 42 per cent. below the average.

Infant mortality, measured by the proportion of deaths among children under one year of age to registered births, was equal to 112 per 1000. The lowest rates of infant

ANALYSIS OF SICKNESS AND MORTALITY STATISTICS IN LONDON DURING OCTOBER, 1904.

(Specially compiled for THE LANCET.)

CITIES AND BOROUGHS.	Estimated population in the middle of 1904.	NOTIFIED CASES OF INFECTIOUS DISEASE.										DEATHS FROM PRINCIPAL INFECTIOUS DISEASES.										Deaths from all causes.	Death-rate per 1000 living.	Deaths of infants under one year to 1000 births.
		Small-pox.	Scarlet fever.	Diphtheria.*	Typhus fever.	Enteric fever.	Other continued fevers.	Puerperal fever.	Erysipelas.	Cholera.	Total.	Annual rate per 1000 persons living.	Small-pox.	Measles.	Scarlet fever.	Diphtheria.*	Whooping-cough.	Typhus fever.	Enteric fever.	Other continued fevers.	Diarrhœa.	Total.	Annual rate per 1000 persons living.			
LONDON	4,648,950	1	1686	681	—	219	8	28	592	—	3215	9·0	—	74	29	62	30	—	40	1	169	405	1·1	5169	14·3	112
West Districts.																										
Paddington	146,975	—	35	20	—	8	—	2	12	—	77	6·8	—	—	—	4	2	—	3	—	9	18	1·6	148	13·1	123
Kensington	179,236	—	28	16	—	6	1	—	12	—	63	4·6	—	—	1	1	1	—	—	1	—	4	0·3	160	11·6	131
Hammersmith	117,412	—	38	37	—	2	—	—	11	—	88	9·9	—	—	1	3	—	—	1	—	4	9	1·0	123	13·5	108
Fulham	152,482	—	38	43	—	6	—	3	14	—	104	8·9	—	1	—	3	1	—	2	—	10	17	1·5	154	13·2	109
Chelsea	74,329	—	8	8	—	2	—	2	1	—	21	3·7	—	—	—	—	—	—	1	—	1	2	0·4	86	15·1	143
City of Westminster	177,321	—	38	27	—	3	—	—	11	—	79	5·8	—	—	1	1	2	—	—	—	5	9	0·7	180	13·2	153
North Districts.																										
St. Marylebone	130,337	—	40	13	—	5	—	—	17	—	75	7·5	—	—	1	1	—	—	—	—	3	5	0·5	129	12·9	83
Hampstead	86,663	—	27	11	—	3	—	—	6	—	47	7·1	—	—	—	2	1	—	1	—	—	4	0·6	59	8·9	86
St. Pancras	235,936	—	77	20	—	9	—	—	39	—	145	8·0	—	8	—	2	—	—	1	—	6	17	0·9	267	15·9	95
Islington	341,044	—	136	26	—	17	—	3	55	—	237	9·1	—	4	5	2	2	—	—	—	3	16	0·6	406	15·5	115
Stoke Newington	52,445	—	24	10	—	3	—	—	7	—	44	10·9	—	—	—	1	—	—	2	—	—	3	0·7	49	12·2	159
Hackney	226,266	—	130	49	—	14	1	6	19	—	219	12·6	—	1	2	2	2	—	5	—	5	17	1·0	214	12·3	77
Central Districts.																										
Holborn	57,161	—	10	5	—	1	—	1	6	—	23	5·2	—	—	—	—	—	—	—	—	1	1	0·2	73	16·6	115
Finsbury	98,958	—	33	8	—	5	—	—	14	—	60	7·9	—	4	1	—	—	—	1	—	7	13	1·7	157	20·7	157
City of London	23,482	—	3	3	—	2	—	—	1	—	9	5·0	—	—	—	—	1	—	—	—	—	1	0·6	37	20·5	38
East Districts.																										
Shoreditch	117,033	—	36	26	—	6	2	1	22	—	93	10·4	—	7	—	3	—	—	1	—	10	21	2·3	162	18·0	129
Bethnal Green	130,207	—	69	36	—	10	—	3	35	—	153	15·3	—	6	1	3	2	—	1	—	7	20	2·0	172	17·2	143
Stepney	303,791	—	169	72	—	28	—	1	69	—	339	14·5	—	4	6	9	2	—	1	—	19	41	1·8	418	17·9	117
Poplar	169,905	—	57	41	—	16	—	1	27	—	142	10·9	—	3	2	4	1	—	2	—	13	25	1·9	203	15·6	103
South Districts.																										
Southwark	207,937	—	27	20	—	14	—	1	38	—	100	6·3	—	—	—	2	5	—	4	—	16	27	1·7	273	17·1	152
Bermondsey	129,397	—	69	21	—	14	—	—	16	—	120	12·1	—	10	2	2	1	—	4	—	8	27	2·7	163	16·4	145
Lambeth	310,359	—	93	24	—	8	—	1	29	—	155	6·5	—	6	—	1	1	—	—	—	10	18	0·8	324	14·0	114
Battersea	175,465	—	51	13	—	5	2	—	18	—	89	6·6	—	3	—	—	—	—	2	—	6	11	0·8	163	12·1	102
Wandsworth	257,448	1	96	44	—	4	1	—	23	—	169	8·6	—	9	—	6	—	—	1	—	2	18	0·9	203	10·3	55
Camberwell	268,384	—	168	26	—	9	—	1	40	—	244	11·9	—	—	2	4	3	—	3	—	10	22	1·1	292	14·2	131
Deptford	113,509	—	67	13	—	7	—	—	11	—	98	11·3	—	—	—	3	1	—	1	—	3	8	0·9	106	12·2	97
Greenwich	101,651	—	35	12	—	8	—	—	12	—	67	8·6	—	—	—	—	1	—	2	—	2	5	0·6	97	12·4	86
Lewisham	140,401	—	38	14	—	2	—	1	11	—	66	6·1	—	7	—	—	—	—	—	—	5	12	1·1	128	11·9	100
Woolwich	123,416	—	46	23	—	1	1	1	16	—	88	9·3	—	1	1	5	2	—	1	—	4	14	1·5	133	14·0	101
Port of London	—	—	—	—	—	1	—	—	—	—	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

* Including membranous croup.

mortality were recorded in St. Marylebone, Hampstead, Hackney, the City of London, Wandsworth, and Greenwich; and the highest rates in the City of Westminster, Stoke Newington, Finsbury, Southwark, and Bermondsey.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeon W. R. M. Young to the *Bacchante*. Staff Surgeons: T. D. Halahan to the *Virid*; H. Clift to the *Venus*. Surgeons: S. Conner to the *Venerable*; W. J. Codrington to the *Britannia*, additional for the *Isis*; and R. H. Atkins to the *Fire Queen*, additional for disposal.

In accordance with the provisions of Her late Majesty's Order in Council of April 1st, 1881, Fleet-Surgeon Stewart Frazer Hamilton has been placed on the Retired List, at his own request, with permission to assume the rank of Deputy-Inspector-General of Hospitals and Fleets. Staff Surgeon Thomas Edward Honey has been placed on the Retired List (dated Oct. 26th, 1904).

ROYAL ARMY MEDICAL CORPS.

The promotion of Major A. F. Tyrrell bears date Oct. 25th, 1904.

The undermentioned Captains to be Majors:—F. R. Buswell and F. A. Symons (dated Oct. 30th, 1904).

Captain H. H. Norman, from temporary half-pay, to be Captain, with precedence next below M. H. Babington (dated Oct. 19th, 1904). Captain F. S. Walker, from temporary half-pay, to be Captain (dated Oct. 19th, 1904). Captain H. Herrick joins the Aldershot Command and is appointed to the medical charge of the detention hospitals at Deepcut and Blackdown. Lieutenant H. Harding is held in readiness for service in India.

HONOURABLE ARTILLERY COMPANY OF LONDON.

Surgeon-Major W. C. James is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated Nov. 5th, 1904).

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Gloucestershire: Surgeon-Major D. S. Davies to be Surgeon-Lieutenant-Colonel (dated Nov. 5th, 1904).

Royal Engineers (Volunteers): 1st Cheshire: James Herbert Dixon to be Surgeon-Lieutenant (dated Nov. 5th, 1904).

Rifle: 20th Middlesex (Artists'): Surgeon-Major (Honorary Captain in the Army) R. R. Sleman is granted the honorary rank of Surgeon-Lieutenant-Colonel (dated Nov. 5th, 1904).

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Woolwich Companies: Lieutenant A. M. Porteous is retired under paragraph 37 Volunteer Regulations (dated Nov. 5th, 1904). South Wales Border Bearer Company: Lieutenant J. F. Dwyer resigns his commission (dated Nov. 5th, 1904).

THE BRITISH MISSION TO LHASA.

In addition to the volume from the pen of Mr. Percival Landon, shortly to be published by Messrs. Hurst and Blackett under the title of "Lhasa: the Tibet Expedition, 1903-04," to which we alluded last week, we learn that Mr. John Murray is also bringing out an account of this mission by Lieutenant-Colonel L. A. Waddell, I.M.S., who was chief medical officer to the expedition, under the title of "Lhasa and its Grand Lama Unveiled." The work will be illustrated by photographs taken by its author on the route. There will, therefore, soon be no lack of information available on this subject. As Lieutenant-Colonel Waddell is familiar with the country and people of which he writes and was in medical charge of the expedition it may be anticipated that among other things he will deal with its scientific and medical aspects. From these points of view the expedition presented many new and interesting features and experiences.

THE WAR IN THE FAR EAST.

The contending armies in Manchuria on the Shaho have both been reinforced. Both sides are entrenched and facing one another but no movement of importance has taken place; indeed, it is quite probable that, pending the reception of news about the fate of Port Arthur, Marshal Oyama will not make any. That fortress, despite its capture having so often been spoken of as imminent, still holds out, but once its fall is really secured such of its besieging force as survive will be liberated and ready to join the Japanese armies in attacking General Kuropatkin's forces. The last assault was partially successful but attended with great loss of life to the Japanese and the hospitals at Dalny are described as overcrowded with wounded. We mentioned last week that the cold in Manchuria is now severe, exposing the troops of both sides to an increase of suffering and hardship. We do not learn, however, that it has had any adverse effect on their health—indeed, that of the Japanese troops is said to be excellent, and they would be thought less likely to withstand the cold than the Russians. By all accounts the Russians have had to contend with great difficulties in the way of transport for their sick and wounded. It was quite inadequate on the occasion of their heavy losses in the recent battles; immense numbers of their wounded have of late been transported to the north by train from the hospitals in Manchuria. We have more than once said on previous occasions that if the well-being of the wounded was the only consideration in war the object to be aimed at in future should be to reverse the present method of procedure and to bring the hospital to the wounded instead of conveying the wounded to the hospital, but that is, and must long remain, we fear, practically unattainable in the circumstances of war. Happily, all are agreed on the principle that beyond applying a first dressing the less that is done at once and in the field in interfering with a wound the better. It is remarkable how relatively slight are a large number of the gunshot wounds inflicted in modern warfare and how many soldiers admitted to hospital recover sufficiently from their wounds to return to the fighting ranks or to their duty. This has been notably the case in the present campaign and from all we can learn the surgical results of Japanese practice have been excellent. The lesson that no one in earnest can miss learning—for it is stamped in bold characters on this Russo-Japanese war—is this: that everything in war depends first of all on preparedness.

Correspondence.

"Audi alteram partem."

THE NEW SYDENHAM SOCIETY'S CLINICAL ATLAS.

To the Editors of THE LANCET.

SIRS,—The first volume of the New Sydenham Society's Clinical Atlas is now completed and an Index to its contents has been prepared. May I venture to ask the courtesy of your pages for a few statements as to what has been accomplished and what is in prospect. This first volume comprises the work of three years and was issued in the form of 12 fasciculi in nine separate covers (three of them being double numbers). The years concerned are 1901, 1902, and 1903. No issue for 1904 has as yet been made but the first will appear very shortly. The subjects illustrated have been so numerous that I must not attempt any recapitulation of them. Our publisher, Mr. Lewis (of 129, Gower-street), will be pleased to send copies of our last report and of the Index to Vol. I. to all who may apply for them. In the commencement of the work the council promised the issue of four fasciculi a year, each to contain eight plates, and this number has been largely exceeded. The engagement was that the work should be continued for six years and it will be seen that three of these are now passed. At the last annual meeting, however, at the suggestion of the council, a very important resolution was adopted to the effect that no special termination of the work should be contemplated. The issue will therefore continue as long as the profession may deem it desirable. This extension of plan is believed to be not only justified by the success of the work but likely to conduce to its much wider usefulness and popularity. It will allow of the much more liberal illustration of the various forms of disease with which it deals and will constitute the work as it advances a more complete repertory of clinical observations. The work has hitherto been edited under the supervision of the council and it is now proposed to organise a special committee for the purpose which shall be, as far as practicable,

representative of the larger hospitals, provincial as well as metropolitan. It is designed to include all subjects susceptible of useful illustration by pictorial aid and although, as far as may be found practicable, the subjects will be classified, it will not be considered that any one has been completed in the sense of being concluded. Each plate or group of plates will, as far as possible, be made to constitute independent illustrations of the malady concerned and will be accompanied by a full narrative of the case or cases concerned. On this plan supplementary plates may from time to time be introduced and more recent observation thus made available. To keep the work well up to date and to insure its usefulness for purposes of diagnosis will be the constant aim of those concerned in its editing.

A moment's thought will convince anyone that it is respecting the more rare class of maladies that pictorial illustrations are of especial value. The practitioner who has not learned to recognise lupus vulgaris in its common forms, which he must have seen repeatedly, is not likely to be helped by a plate. The same remark applies to a host of other conditions with which even the youngest practitioner cannot have failed to become familiar. After all a picture cannot compete with the living patient in adequacy of illustration and it is little better than wasteful expenditure to depict conditions which are matters of everyday experience. It is respecting those which do not come frequently under notice that help is especially needed. It is obvious that it would conduce vastly to the progress of clinical knowledge if all the examples of rare maladies were correctly recognised. Diseases which are now but too often allowed to pass as being little more than curiosities would be found to be sufficiently common to admit of intelligent classification and to be made to supply their quota to the stock of well-investigated observations. Nor is the addition of a new malady to our nosological list, although it may be a very rare one, of less than the very highest value for the advancement of medicine. The results which have accrued from the discovery of Myxœdema may be allowed to stand as a good instance of what is meant. The next issue of our Atlas will contain a portrait taken from a patient recently under the care of Dr. Gee in St. Bartholomew's Hospital which exhibits the very peculiar conditions which Hebra described as Sarcoma melanodes. Although it is 35 years since Hebra observed his first case this malady has received only very scant recognition from subsequent observers. Yet it is a well-characterised malady, and standing as it does as a connecting link between innocent and malignant processes and between those of childhood and those of senility it may be destined to throw very valuable light on some of the most pressing questions of the day. Who can doubt that during the last quarter of a century many examples of it have occurred and have escaped recognition and thus been lost to medical science? Whilst, however, it is claimed for our Atlas, as one of its most important functions, that it will help to the prompt recognition of exceptional forms of disease, it must at the same time be clearly understood that, after all, its principal vocation is in dealing with what is common. A glance at the index to the fasciculi already published will prove this. We have dealt not only with leprosy, Sprengel's shoulder, albinism, the exceptional forms of syphilis, morphœa, xanthoma, and arsenical cancer, but with the ordinary results of arsenical poisoning, with Colles's fracture (in detail) and other forms of fracture and dislocation as illustrated by the x rays; with the eruptions caused by insect bites, cretinism, scabies, pemphigus of pregnancy, urticaria, and many other diseases of common occurrence.

The next fasciculus, which will, as I have said, contain Dr. Gee's portrait of a very rare malady, will contain others illustrating flea-bites and ringworm, and those in immediate preparation will be concerned with drug eruptions, vaccination, varicella, and small-pox. In this connexion it may be mentioned that it is under consideration to publish from time to time a page or two of retrospective letterpress, consisting of emendations in which references to facts or cases already published will find their place. By this means case narratives may be made more nearly complete, questions answered, and statements explained or supplemented. It will, I trust, be obvious to all that my object in asking your insertion of this letter is the hope of inducing a large number of your readers to join our ranks and thus help in the production of a work which will, it is hoped, take in the future a foremost share in the development of clinical knowledge. The council (at whose request I write) is determined to spare no pains in the endeavour to make the Atlas useful to all branches of the profession and especially to those engaged in the absorbing routine of general practice and residing, it may be, in more or less remote districts. Its value to teachers and for hospital libraries will be obvious and it is possible that there may be some amongst those who, no longer actively engaged in practice, may feel that it has claims on their sympathetic support. The Atlas is supplied to members of the Society at a cost which has probably had no precedent in medical literature. That cost might, however, be still further diminished if we could add a few thousand more to our members' list. Such an addition would enable us not only to give more frequent fasciculi but also to publish each year a printed volume. When this shall become practicable the council has in contemplation to publish volumes of important short monographs and to select chiefly such as deal with topics which have been referred to in the Atlas.

As regards the details of subscription, I may state that the council has decided to allow the regulation which permitted the payment in advance of five years' subscriptions to secure six years' publications to remain in force a little longer. We have in stock a certain quantity of the fasciculi already published and those who make the 5-guinea payment can obtain the Atlas from its commencement and for the ensuing three years. It is not probable, however, that this privilege can continue long in force nor unless the demand should be very large can the work ever be reprinted. The stones for the coloured plates have already been destroyed and it is not improbable that the earlier fasciculi of the work may rise considerably above their present cost as soon as the stock in hand is exhausted. For future years larger editions can be printed.

I am, Sirs, yours faithfully,

JONATHAN HUTCHINSON,
Nov. 5th, 1904. Honorary Secretary, New Sydenham Society.

CANCER GENESIS.

To the Editors of THE LANCET.

SIRS,—There is such a strong family likeness between Dr. J. Beard's conception of tumour genesis as set forth in THE LANCET of Oct. 29th, p. 1200, and the theory of tumour genesis elaborated by me many years ago, as set forth in my work on "The Principles of Cancer and Tumour Formation" (1888), that I feel bound to call attention to the coincidence, especially as it seems probable that Dr. Beard is unacquainted with my work. At the outset, I take this opportunity of expressing my conviction as to the great value of Dr. Beard's work as tending to give a right direction to tumour investigation, although most of the reasons he gives for his conclusions seem to me to be altogether inadequate. In what follows I hope to be able to show that my own steps in this direction rest on a more logical basis than Dr. Beard's, mainly owing to the wider range and generality of the conceptions adopted, although, of course, allowance must be made for the comparatively remote date of their origin, for in the region of biological speculation much has happened since I wrote.

With this object in view I propose to take the cardinal propositions of Dr. Beard's thesis *seriatim*, contrasting each one with corresponding passages in my work, while offering a few critical remarks *en passant* as to some of the speculations bearing on this matter that more particularly appertain to Dr. Beard himself.

In the first place the doctrine of the alternation of generations in the course of human ontogeny is postulated; the asexual generation is asserted to be identical with the chorion and it is from this source that the tumour germs are stated to arise. Now with regard to each of the items of this proposition Dr. Beard produces them as extraordinary novelties of his own invention; but if he will kindly read the subjoined passage from my above-mentioned work (p. 117) he will see the fallaciousness of this notion. The citation is as follows:—

> If we regard the cells combining to form the higher animals as autonomous beings, possessed of morphological and physiological independence, we shall then see, although there is no such thing as true alternation of generations in the ontogeny of such animals, that nevertheless, as Haeckel has pointed out, a very complex alternation of the constituent cells does take place which has a resemblance to it. The developmental cycle commences with the union of the male and female reproductive cells, whence the cytula or fertilised germ results, which by agamic multiplication originates the mass of similar cells called the morula. These differentiate into the various cells of the blastodermic layers. By further agamic multiplication the cells of these layers originate the very many generations of variously modified

cells, whence the different tissues and organs arise. All of these polymorphic cell generations multiply agamically. Eventually, however, two of them differentiate sexually, forming the ova and sperm cells. By the union of these in the act of sexual reproduction the developmental cycle is completed. The reversion of the cells has led them back to their original starting point.

The only difference between this process and true alternation of generation lies in the fact that in the former the products of agamogenesis remain in close contact with one another to form a multicellular organism, whereas in the latter the agamic products (persons) which represent the different generations are separated and free. But the conditions prevailing in siphonophora show that this distinction is not of fundamental importance, for in these creatures the same persons—widely differentiated by division of labour—remain united into one stock that in other hydro-medusæ lead separate and independent lives.

When we examine the phenomena of gemmation and pathological neoplasia in this light it is obvious that the essential thing in both cases is the interpolation in the developmental series of additional agamic cell generations owing to excess of nutrition in these situations.

It is evident from the foregoing that the doctrine of the alternation of generations in human ontogenesis is no new idea, for it forms an important part of Haeckel's biological generalisations; neither is the idea of connecting the origin of tumours with this phenomenon a novelty, for this forms an important part of my theory of tumour genesis, as fully explained in my work on "The Principles of Cancer and Tumour Formation," from which the above passages are cited. The only novelty, therefore, attaching to this first proposition of Dr. Beard is that which asserts the identity of the chorion with the asexual generation, and this is a hypothesis of which the sole supporter at the present moment is its distinguished author. It is evidently quite impossible for pathologists to ground a sound theory of tumour genesis on a hypothesis in such an unprecedentedly rudimentary state of development. Besides, the known facts of tumour pathology directly contradict this assumption in many ways. As I have shown in my work, tumours may arise in *any* multicellular animal or vegetable being, but a chorion is only found in mammalian animals, so that if this hypothesis were correct tumours could only occur in mammals, which we know is not the case.

Dr. Beard complains with regard to the reception of his doctrine *re* alternation of generations by the scientific world that "his arguments and conclusions have been neither refuted nor confirmed but have been ignored." Well, I have to re-echo the same complaint anent the reception of my work on "The Principles of Cancer and Tumour Formation," and among the sinners in this respect I find Dr. Beard himself. Another person who has a good right to be heard in this connexion is Ernest Haeckel whose splendid work on "Generelle Morphologie" has been so generally ignored by biologists, although it is certainly the best treatise on the principles of biology that has appeared since H. Spencer's publication, on which it is a distinct advance. Here again it is surprising to find Dr. Beard among the sinners.

The second of Dr. Beard's fundamental propositions of tumour genesis centres round the doctrine of homologous twins, which, as he says, "pass gradually into double monsters, and these in their turn into the higher tumours or teratomata." In the course of my investigation I arrived at a similar conclusion, although by a different process of reasoning, as the following quotations show:—

> In the ordinary course of organic evolution the growth and development of the cells proceeds in a regular and orderly manner, in accordance with the specific hereditary tendency of the whole. But the process once started does not cease on account of irregularity or because it is taking a wrong direction. Hence cells may arise at a place where they have no business, or at a time when they ought not to be produced, or to an extent which is at variance with the normal formation of the organism. In the early embryo monstrosities and malformations are thus originated; and, at later periods of development, the various pathological new formations. These extremes graduate so insensibly into one another that it is impossible to separate them.
>
> It is generally admitted that the mass of undifferentiated protoplasmic cells, which in the ontogeny of the higher animals results from the proliferation of the fertilised germ, occasionally manifests reproductive properties similar to those of Hydra—multiplying by a kind of gemmation—so that from a single developing germ two or more gemmiparously produced individuals may proceed. The subsequent development of such gemmiparously produced individuals may be either continuous or discontinuous, as is ultimately determined by the conditions of nutrition. Thus when the division of the undifferentiated embryo into two equal parts is complete, and each of these develops into a new being, homologous twins are the result. Similarly when the division is more or less incomplete we get the various degrees of double monsters. However different in their several degrees of malformation, double monsters may be arranged in one continuous series. The most complete are those in which two bodies, nearly equally developed, are attached to one another only at a certain point. Such monsters differ but little from homologous twins. It sometimes happens that one of the bodies of such double monsters exceeds its fellow in size and degree of development.
>
> We thus pass gradually to another class of these malformations in which only one of the two fœtuses attains its full development, while the other is more or less stunted. The latter are called parasites, because they depend for nutrition upon the body to which they are attached. In either type the parasite may be variously developed. Thus, it may be well formed but diminutive or it may be imperfectly formed, consisting only of part of the body, a single extremity, or even of nothing more than a confused mass of embryonic or other tissues. In short, whenever the development of the parasitic fœtus falls below a certain grade, it is represented only by tumour-like formations, the so-called *teratomata*, which consist of a great variety of different tissues, chaotically arranged, and in various stages of development. Such malformations represent abortive parasitic fœtuses; the attempt to form a double monster has failed through one of the twins developing at the expense of the other (p. 122 *et seq.*).
>
> A certain degree of independence or individuality is the essential characteristic of every neoplasm, which in ultimate analysis must be regarded as the product of a more or less abortive attempt of certain cells to reproduce a new individual by agamogenesis. There is then some truth in the remarkable saying of Paracelsus: "That in such a disease a man is himself and another; he has two bodies at one time, inclosed the one in the other, and yet he is one man" (p. 130).

The third fundamental proposition underlying Dr. Beard's tumour hypothesis is that there is specific distinction between *somatic* and *germ* cells, which is, of course, the basal proposition of Weismannism.

The very remarkable manner in which the majority of modern biologists were at once captured by this fascinating intellectual divagation, is one of the features in the history of the scientific life of the period; it is likely to rank with the celebrated heresy of Liebig as to the chemical nature of fermentation which retarded the advent of the germ theory for such a lengthy period; and with the vagaries of Cuvier which caused his hypothesis as to the origin of species to be preferred to the more truthful conceptions of Lamarck, and so retarded the progress of modern biology for more than half a century.

My own belief is that the biologists never would have been captured wholesale by Weismann's hair-splitting trivialities if they had not been far too much immersed in, and befogged by, the details and technicalities of their special studies. A certain detachment, and perhaps also a certain intellectual superiority, which are rarely concomitant with a too exclusive devotion to details and technicalities, seem to be absolutely necessary for the adequate development of correct biological generalisation; and it is a characteristic of the present order of things that these special qualities are only too often conspicuous by their absence. A thorough acquaintance with the works of Spencer (physiological units), Darwin (pangenesis), and Haeckel (perigenesis of the plastidule), would have preserved the biological profession from the pitfalls of Weismannism. I will not enter on the discussion of Weismannism *versus* Spencerism; it must suffice for me to state that I regard the fundamental distinction between somatic and germ cells on which Weismann's theory is based as artificial. I believe that the reproductive properties manifested by somatic and germ cells are the same in kind and that they differ only in degree. In the controversy between Weismann and De Vries I believe the latter, as to his main contentions, was generally in the right. The very fact that even Weismann's followers now recognise that the germ cells are not concentrated solely in the sex organs but are more or less widely diffused throughout the tissues of the soma clearly indicates the near approach of the dissolution of Weismannism and the return to more reasonable conceptions as to the nature of variation, heredity, and allied biological problems.—I am, Sirs, yours faithfully,

Clifton, Bristol, Oct. 31st, 1904. W. ROGER WILLIAMS.

THE DURATION OF UTERO-GESTATION.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of August 27th, 1904, p. 597, in a review of Peterson and Haines's "Textbook of Legal Medicine and Toxicology," there is a reference to the length of utero-gestation. The occurrence of a case just completed where this question is raised leads me to cite it.

A woman, aged 28 years, a primipara, came in February, 1904, to engage me for her lying-in in August, giving as the date the first week approximately. She was married in October, and the last menstruation occurred on Nov. 2nd, ceasing on the 4th. Accepting this date, August 9th was decided on as due date. She complained of morning sickness as being severe and in a day or two I had to attend her for hyperemesis gravidarum, which only yielded to free evacuation of the bowels by hydrargyri subchloridum in repeated small doses and ingluvin. But for

a while things looked so bad that it seemed as though I should have to empty the uterus to save her life. However, I was happily enabled to avoid this. Soon after, about March 22nd, she quickened. I may say that she is an intelligent, unemotional, and sensible woman. I had specially requested her to inform me when she believed she quickened. I may add that the size of the uterus in February was just what one would look for at the fourth month. About August 9th I was rung up and informed that she was in labour. Being busy I did not examine or make abdominal palpation till the next morning, especially as the pains were slight. The nurse told me that the pains had been regular and later severe, and then passed off during the night. On palpation I found that the head had not even engaged in the pelvic inlet. In a fortnight she repeated the performance. Then on Sept. 26th labour came on in good earnest about 3 A.M. and at 4.30 P.M. she was delivered of a healthy boy, weight 8 pounds and 22 inches long. The head refused to mould, though $CHCl_3$ was pushed and attempts were made to retard pressure prematurely upon the perineum. Rupture of the perineum occurred. Ossification of the posterior fontanelle was almost complete, but the anterior fontanelle was patent. The presentation was left occipito-anterior.

Now this makes a period of utero-gestation of *324 days* from the cessation of the last menses. The period of quickening seems to preclude the possibility of conception having occurred much posterior to November. The patient was informed of the possibility of mistaking flatulence for quickening and she is not to be shaken, even now, in her statement of the date of its occurrence.

I am, Sirs, yours faithfully,

G. A. VAN SOMEREN, M.D. Edin.

New South Wales, Australia, Sept. 28th, 1904.

To the Editors of THE LANCET.

SIRS,—A case which we have at present under observation is very interesting to the medical profession. We state absolute facts. The last menstrual period started on Dec. 24th, 1903, and ended on the 31st. A single coitus took place on Jan. 12th, 1904. The menstrual period next due was in abeyance and symptoms of morning sickness appeared towards the end of the month. We are assured that no further connexion took place during February and the lady was convinced that she was pregnant. According to her, movement was first felt on April 20th which increased as time went on. In the usual course the probable date of birth was given as Oct. 19th and arrangements were accordingly made. Up to the present date (Nov. 8th) there are no signs of labour. We should be pleased if any of your readers who have had similar instances of apparent protracted pregnancy will throw some light on the causes and reasons of this delay. We are under the impression that it was the ovum due to be shed in the ordinary course in the latter part of the month of January which was impregnated and the ovum of December was inert.

We are, Sirs, yours faithfully,

M.D., F.R.C.S.
M.B., C.M.

Nov. 8th, 1904.

THE WEST RIDING COUNTY COUNCIL BACTERIOLOGICAL LABORATORY.

To the Editors of THE LANCET.

SIRS,—In connexion with your comments in THE LANCET of Nov. 5th, p. 1303, on my annual report on the work of the above department for 1903, may I be permitted to say that, owing to the epidemic prevalence of diphtheria in certain districts of the West Riding during 1901-02-03, a considerable number of very typical cases were submitted for examination. The relatively high proportion of diphtheria examinations in which it was possible to make a correct provisional diagnosis by means of a preliminary examination with Neisser's staining method, on which you comment, is no doubt partly due to this. My experience has been that it is chiefly in the course of an epidemic that the advantages of such a preliminary examination, as a means for confirming the clinical diagnosis, are apparent. In sporadic and doubtful cases, with contacts, and at the beginning or end of an outbreak it is only occasionally that the results are sufficiently marked to be reliable. I may mention that the provisional opinion was checked in all the cases mentioned in my last and previous reports by stained films prepared from serum cultures and in most instances also by a communication from the medical attendant of the case three months after the examination was made.

I am, Sirs, yours faithfully,

Beaumont-street, W., Nov. 7th, 1904. P. J. CAMMIDGE.

INDIAN UNIVERSITY DEGREES AND THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

To the Editors of THE LANCET.

SIRS,—Regulation II. for the first examination for the diploma of F.R.C.S. is to the effect that a candidate who is not an M.R.C.S. must have passed the first and second examinations of the Conjoint Board or university examinations considered equivalent by the Board. Thus one holding the degree of L.M. & S. from an Indian university has, under the rules made by the Conjoint Board, to pass its second examination before he can appear at the first F.R.C.S. examination. But Regulation II. for the second F.R.C.S. examination is to the effect that a candidate who is not an M.R.C.S. must have a registrable surgical and medical qualification, which the degree of L.M. & S. is. It thus happens that while for the purposes of the second F.R.C.S. examination an L.M. & S. is in the same position as an M.R.C.S., for the purposes of the lower—i.e., the first F.R.C.S.—examination he is in an inferior position. This, to a layman like me, looks highly anomalous; for, further, an L.M. & S. can come up to the same position as an M.R.C.S. for the purposes of the first F.R.C.S. examination by passing the second examination of the Conjoint Board and can proceed to the second F.R.C.S. examination as an M.R.C.S.'s equal, without passing the final examination of the Conjoint Board, while a candidate who previously to his first F.R.C.S. examination had passed university examinations equivalent, in the opinion of the Board, to its first and second examinations, or passed these very examinations, and was thus in a better position than an L.M. & S., must, before going up for the second F.R.C.S. examination, pass further examinations and obtain a registrable qualification. I have been told that though the consequent injustice and hardship to L.M. & S.'s are admitted the authorities concerned assume a *non possumus* for the apparently sufficient reason that to mend matters now would be unfair to those L.M. & S.'s who have up to this time unsuccessfully tried to get them mended. Trusting you will allow me to call attention in your journal to this state of things,

I am, Sirs, yours faithfully,

N. D. DARÛ.

Royal College of Science, London, Oct. 27th, 1904.

*** Our correspondent is mistaken in thinking that the L.M. & S. admits to the final examination for the Fellowship of the Royal College of Surgeons of England. The regulations admit the surgical and medical *degrees* of the universities of Calcutta, Bombay, Madras, and the Punjab, but the L.M. & S. is not a degree—it is a diploma.—ED. L.

HUMAN RAYS AND THEIR SPECTRA.

To the Editors of THE LANCET.

SIRS,—I take it that there are but few now who do not acknowledge the existence of the "n" rays. There are, however, some who still adhere to the theory that they are merely heat vibrations. Among my experiments to test this point was one which carried conviction to my mind that these emanations were not at all events due to the heat rays alone. I had some few months ago the opportunity of trying to pass the rays through the forearm of a deceased patient some time after all the natural warmth had passed off; holding my thenar muscles against the dorsal aspect of the arm and the prepared screen on the palmar surface of the arm of the corpse the increased luminosity on the screen was soon apparent to myself and two eye-witnesses. Surely any heat rays would have been stopped on any attempt to pass them through this particularly cold stratum. But I have gone further than this and have proved to my entire satisfaction that these rays have a spectrum just as an ordinary ray of light has; in fact, the different shades of colour which they emit are innumerable

though quite apparent and easily differentiated by those—and there are many, some even in the medical profession—who have the gift of inner perception, the gift, that is, of being able to see a little further than most people into the vast world of attenuated matter, the gift of being able to detect by sense the more rapid vibrations of the cosmic ether. To say that there are no more rays beyond the ultra-violet ones, simply because our vision is not so constructed as to receive vibrations at a rate expressed by ultra-violet, would be unscientific in the extreme; as well might we say that there are no sounds beyond those we hear.

I have conducted during odd moments of the last three years some 300 experiments to test this question of the human-ray spectrum and the extraordinary unanimity of the results is astounding. The experiments have been carried out under conditions which preclude the possibility of guessing aright and some of the results are as follows: rays emanating from a very passionate man have a deep red hue; the one whose key-note in life is to be good and to do good throws off pink rays; the ambitious man emits orange rays; the deep thinker, deep blue; the lover of art and refined surroundings, yellow; the anxious, depressed person, grey; the one who leads a low debased life throws off muddy-brown rays; the devotional, good meaning person, light blue; the progressive-minded one, light green; the physically or mentally ill, dark green, and so on. These experiences have at all events the merit of being first-hand. I have not consulted any other authority in the matter, much less taken any clue from such. I know perfectly well that these statements will be received by many with an amused smile of incredulity, as many other so-called "discoveries" have at first, but I also know perfectly well that sooner or later they will become accepted facts. Nor is there anything remarkable or unreasonable in all this when we consider that man has been thousands of years (Max Müller is my authority) in evolving his colour sense to its present point. There is no Sanskrit word the meaning of which has any reference to colour; Xenophanes knew of three colours of the rainbow only. Some 15,000 or 20,000 years ago man was only conscious of one colour; later red and black were distinguished; still later yellow, then green.[1] Now we can easily imagine the wiseacres of those times calling lunatics those few who, in advance of the generality of the then mankind, ventured to assert that they distinguished new colours; we know that colour blindness is a reversion to type, a reversion to the time when a lesser number of shades could be distinguished. As our senses become more refined surely we shall evolve the power of detecting more refined hues. The x rays are invisible but we all know that they are an existent fact. We have not yet reached the point of finality in rays.

I am, Sirs, yours faithfully,

J. STENSON HOOKER, M.D. Durh.

Nottingham-place, W., Nov. 8th, 1904.

[1] Buck's Cosmic Consciousness.

THE BRITISH MEDICAL BENEVOLENT FUND.

To the Editors of THE LANCET.

SIRS,—It was kind of the president and treasurer of the British Medical Benevolent Fund to comment so fully on the observations which I ventured to make in your issue of Oct. 22nd and it is only because my silence may be construed into acquiescence in their views that I ask to be allowed to reply. Sir William Broadbent is evidently convinced that a paid secretary is not necessary, for he expresses his belief that the approval by the medical journals of the work done by the fund carries weight which is probably quite the equivalent in value of even an energetic paid official. I will not attempt to argue on this point, but if Sir William Broadbent has the opportunity of consulting someone specially qualified to express an opinion—e.g., the secretary of a successful London charity or of one of our leading insurance companies—he will be assured that whilst press notices have a special value in keeping alive an interest in any work it is chiefly personal advocacy which brings charitable contributions to an institution or insurers to an insurance company.

Dr. West draws attention to the fact that I did not refer to the annuity department which has certainly made satisfactory progress, but he must bear in mind that the President's appeal in the *Times* was practically for the grant department, as he specifically drew attention to the fact that the annuities were provided for by investments. However, had I referred to the annuity branch I should have taken the liberty to criticise the policy of the committee in benefiting posterity at the expense of the present generation. To build up a substantial reserve is of course sound finance and to invest legacies specifically bequeathed to an endowment fund is necessary, but to capitalise all donations and legacies for general purposes whilst 23 applicants are refused assistance owing to lack of funds must appear to some friends of the charity to be a drastic method of financial administration. Dr. West is convinced that mere advertising hardly pays its cost and that it cannot take the place of personal advocacy and enthusiasm. As to how these friends, the honorary local secretaries, are to be secured he hopes for volunteers; but as there are only about 90 of these, in spite of the fact that the fund has been in existence close upon 70 years, is there not some ground for my suggestion that a paid secretary should be appointed to organise this department? Just as agents are the backbone of our largest insurance companies, so honorary local secretaries add materially to the success of charitable institutions.

Unfortunately, Dr. West has evidently a poor opinion of the value of secretaries and many of those who work indefatigably year after year to increase the funds of our leading London charities, seeing presidents, treasurers, and committees come and go, would smile at the statement that "at most of our charities it is not as a rule the secretary who obtains the money but some active, enthusiastic, unpaid volunteer who suggests and directs the secretary's work." That these honorary officials render invaluable assistance is quite certain, but where a secretary is lacking in initiative and having had insufficient training in the difficult task of obtaining contributions, is dependent upon suggestions and directions from an honorary official, the financial condition of his charity will be unsatisfactory. Let us take the case of a great medical organisation, the British Medical Association. In 1853 there were 1853 members, whilst at the present time there are about 19,200. Can anyone believe that this Association would have flourished as it has if there had been only honorary officials or if the paid secretary had only carried out the suggestions and directions of the various enthusiastic presidents, treasurers, and chairmen of Council?

In referring to the suggestion that a paid secretary should be appointed Dr. West observes that £1000 a year extra might easily be spent upon office expenses, but I should be glad to hear how he would propose to disburse this amount. A young energetic official could be secured for £250 a year, with the understanding that his salary would rise in course of years provided there were a substantial increase in the annual subscriptions and donations. At present a sum of £100 a year appears to be spent in clerical assistance, so that the net increased cost of a secretary would be £150 a year. Where is the remaining sum of £850 going? I think an impartial inquirer would say that if only committees would "wake up," to use a popular political expression, the existing benevolent agencies of the profession would prove ample to meet all cases of distress. These agencies include the Royal Medical Benevolent Fund Society of Ireland; THE LANCET Relief Fund, which renders immediate pecuniary assistance when the case is an urgent one; the Epsom College Royal Medical Foundation, which gives pensions to medical men, their widows, and aged daughters, and provides for the education of their sons and daughters; the numerous medical benevolent associations throughout Great Britain, some small, but others large and doing much good, though few of them are as well supported as they ought to be; the Society for the Relief of Widows and Orphans of Medical Men, which has an invested capital of £96,000; and the British Medical Benevolent Fund, which gives 124 annuities to disabled medical men, their widows, or unmarried daughters, and has a grant department for assisting those who are not eligible for annuities. I hope Mr. Christopher Heath will not mind my referring to the lack of progress made by the society of which he is president—namely, the Society for the Relief of Widows and Orphans of Medical Men. At the present time there are 297 members and on referring to a report of 1851 I find that there were then 352, so that in 50 years the number of members has decreased by 55. Here is a society which offers to members of the profession resident within 20 miles of

London advantages which no insurance company can possibly give and to which every married medical man depending upon his professional income should belong, yet only 297 are members of the society and of these a large number do not expect to benefit themselves but support the society from philanthropic motives. Is this lack of progress surprising when we read that the secretary attends at the office for one hour twice a week and that "laws and forms of application may be had from the secretary on sending a postage stamp!" This reads like the rules of a small association in the fifties, not of an important society with a capital of close upon £97,000. Can anyone doubt that the number of members would be doubled, or even trebled, if modern methods were adopted and the secretary were to receive such a salary as would enable him to devote his whole time to the affairs of the society?

Allow me to apologise for my seeming impertinence in interfering in matters outside my province and to offer as an excuse the fact that I have for years taken more than a passing interest in matters appertaining to the medical profession. The letter from Sir William Broadbent in the *Times* gave me an opportunity of expressing an opinion which I have held for many years and I ventured to avail myself of it. In conclusion I wish to re-echo your words, that too much praise cannot be given to honorary officials of the British Medical Benevolent Fund, and as I have had the pleasure of knowing some of these personally this is no mere form of speech.

I am, Sirs, yours faithfully,

Nov. 6th, 1904. A LAYMAN.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

Spontaneous Combustion of Oils.

AT the first meeting for this session of the Manchester section of the Society of Chemical Industry on Nov. 4th Mr. T. Carter Bell, in the course of an address on the Spontaneous Combustion of Oils from an Insurance Point of View, gave some interesting information. It seems that in woollen manufacture the insurance companies charge a higher premium if mineral oils are used but not if olive oil is used. He had experimented with a rag-pulling machine and had used various oils, including mineral oils of high flash point. The materials used were mungo, minero, and indigo-dyed cloth, and mineral oil gave a rise of temperature of 104° F. after the rags had left the machine, while those where olive oil had been used had a temperature of 192° F. Mr. Bell says that the whole danger lies in the initial temperature of an oil. Spontaneous combustion of oils when mixed, he said, with organic matter was a serious point and mineral oils were undoubtedly safer than vegetable oils. American insurance companies advised the mixing of 40 per cent. of mineral oil with other oils to prevent spontaneous combustion. His statement seems curious, if this be so, that "English insurance companies charged a much higher premium when oils were used containing a large amount of unsaponifiable matter."

A Defiant Urban District Council.

Some time ago the Preesall urban district council appointed a local man as sanitary inspector and surveyor. The Local Government Board objected and declined to pay the customary half of the inspector's salary, so the chairman guaranteed it personally. Soon afterwards a medical man was sent to inspect the district and his report has disturbed the equanimity of the self-complacent council of Preesall-cum-Hackinsall. It states that the water-supply is unwholesome in quality and insufficient in quantity. The conditions as to sewerage, drainage, and disposal of sewage are faulty. There are serious nuisances—many of them in relation with unsatisfactory disposal and removal of refuse in the near neighbourhood of dwellings. The cow-sheds are in a neglected state, there is no provision for the isolation of cases of infectious disease other than small-pox or any trustworthy means of disinfection, and, as one would expect, there are numerous infringements of the by-laws supposed to be in force in the neighbourhood. As Preesall aspires to become "a popular little watering-place" it would perhaps be well if one or two of the less unintelligent members of the council were to go forth into the world and observe the mode of living and the standard as to sanitation in a few places where a modest degree of civilisation has been attained.

The Manchester Port Sanitary Authority.

During October 265 vessels were inspected and insanitary conditions were found in 137. This is a very large proportion and shows that great watchfulness is required. The port sanitary committee has decided to send a circular to shipowners calling their attention to the fact that the emission of black smoke from the funnels of vessels in dock renders their owners liable.

The Water-supply of Manchester.

The rain on Nov. 6th and 7th has increased the supply in the Woodhead reservoirs from one of 17 days to one of 23 days, and on the night of the latter date the water was still flowing in. The second Thirlmere pipe is working satisfactorily, so that there seems good ground for hoping that Manchester will not, for this year at all events, be nearer a water famine than she has been.

Bequests to Medical Charities.

At the weekly meeting of the Manchester and Salford Hospital for Skin Diseases on Oct. 18th, it was announced that the trustee of the estate of the late Mr. Manassah Gledhill had decided to give a donation of £5000, part of the residue of the estate, to the hospital, provided that a ward in the new hospital should be called the "Manassah Gledhill Ward."—In consequence of the recent death of the widow of the late Mr. J. G. Silkenstadt, formerly of Manchester, the executors have decided to dispose at once of the sum of £10,000 left to them for charitable purposes in or around Manchester, less 10 per cent. from each gift for legacy duty. The amounts coming to the medical charities are as follows: The Infirmary, £1000; Ancoats Hospital, £500; Cancer Pavilion and Home, £500; Clinical Hospital for Women and Children, £500; David Lewis Manchester Epileptic Colony, £500; General Hospital and Dispensary for Sick Children (Pendlebury), £500; Hospital for Consumption and Diseases of the Chest and Throat, £500; Manchester Ear Hospital, £500; Manchester Royal Eye Hospital, £500; Manchester and Salford Hospital for Skin Diseases (Quay-street), £500; Manchester Southern Hospital for Women and Children, £500; Northern Counties Hospital for Incurables (Manlfleth), £500; and Manchester and Salford Sick Poor and Private Nursing Institution, £250.

The Workhouse Family.

The board of guardians of Bury is thoughtful and considerate for the future of those children who may be born in the house. It is permissible to use a euphemistic address instead of "the workhouse" and the choice of names suggested was a little difficult. The first proposed was "400, Rochdale Old-road, Jericho, Bury." Another speaker suggested "Bailey's Hotel," after the name of the workhouse master. After discussion "Broadoak-lane, Jericho," was adopted. The object, of course, was that the children should not be branded through life as having been born in the workhouse.

Manchester Jewish Hospital.

The Manchester Victoria Memorial Jewish Hospital, the first of its kind in England, was opened for public inspection on Oct. 31st. It faces the Cheetham Park and overlooks an open space not liable to be built over. There are four well-lighted wards, two on the ground floor and two above, each to hold ten beds. There is also an operating theatre on the ground floor. The administrative block is not yet built, though the site is secured. Much of the ward space, therefore, on the upper floor has been converted temporarily into residential quarters for the staff. Provision will at first be made for ten beds, six for males and four for females. The hospital is, of course, built primarily for Jews, but if there is room it will be open to other patients. The building has cost something over £5000, raised largely by weekly penny subscriptions which have already amounted to about £2000. There have been other subscriptions but a sum of about £3000 more is required. It will be kept up by voluntary subscriptions and it is expected that the pennies will bring in about £10 weekly. The formal opening is fixed for Nov. 17th.

Nov. 8th.

WALES AND WESTERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENTS.)

The Administration of Poor-law Relief.

THE half-yearly meeting of the National Poor-law Officers' Association was held at Cardiff on Oct. 29th, under the presidency of Dr. James Milward of Cardiff. A

discussion of considerable interest to Poor-law authorities upon the administration of relief under the Poor-law was introduced by Sir William Chance, honorary secretary of the central committee of Poor-law Conferences, who said that the fundamental doctrine of the English Poor-law was that relief was given not as a matter of charity but as a legal obligation. The Poor-law he considered should deal with institutional relief, while charity should take upon itself the whole burden of relief at the home. He admitted that before such a division could take place there must be an entire reform in charitable methods, for indiscriminate charitable relief did as much harm to the community as lax administration of legal relief, and the aim of both was, and should be, the same—to relieve cases of distress with as little harm as possible to the community. He spoke in strong terms of the desirability of placing the administration of relief in the hands of thoroughly capable persons and urged that boards of guardians should act in close coöperation with the magisterial benches and with charitable organisations.

Merthyr Tydvil Hospital.

In the summer of 1902 Sir William Thomas Lewis offered to provide a new children's ward in the Merthyr Tydvil Hospital if the sum of about £1000 could be raised for the purpose of extending the male wards. This condition was fulfilled mainly through the exertions of Mr. Cornelius Biddle, L.R.C.P. Lond., M.R.C.S. Eng., the high constable of Merthyr, who organised a 1*s.* fund which realised over £500 towards the amount required. The children's ward has now been opened and Sir William Lewis has obtained the King's permission to call it "The King Edward VII. Ward."

Royal United Hospital, Bath.

The management committee of the Royal United Hospital at Bath for several years has had to face an expenditure in excess of income. In 1901, in spite of the fact that the trustees had sold out £1780 from invested funds, there was a deficit at the end of the year of £3370 and this has now increased to nearly £5000. A public meeting presided over by the mayor of the city was held on Oct. 31st to consider what steps could be taken to increase the interest in the institution which was established as long ago as 1826 and which has accommodation for 130 patients. At this meeting Dr. Lionel A. Weatherly stated that the committee had been compelled during the past 15 years to spend upon current expenses all the legacies they had received instead of investing them as prudence would have suggested. He also mentioned the fact that patients were admitted to the hospital from districts within an area of 800 square miles and containing a population of 279,000 persons.

Dairy Farms in South Wales.

At a recent meeting of the Carmarthenshire Chamber of Agriculture the manager of the Lampeter Dairy Society declared that many of the farm buildings in South Wales were very far from being satisfactory and that the dairies were in such a state that it was next to impossible to turn out either good butter or good cheese. Several medical officers of health have lately spoken in similar terms of certain cowsheds which have come under their notice and now that the farmers themselves are realising the existence of unsatisfactory conditions some improvement may possibly be made.

Exeter Workhouse Infirmary.

Canon Hobson on Nov. 3rd laid the foundation-stone of a new workhouse infirmary at Exeter. It is being erected at a cost of about £12,000, will comprise five distinct blocks, and will provide accommodation for 152 beds.

Nov. 7th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Irish Poor-law Medical Officers.

Surgeon-General Evatt, C.B., has been in Ireland for some weeks in compliance with an invitation from the Irish Medical Association and has been engaged in holding consultations and addressing public meetings throughout the country on the present position of the Poor-law medical service and its relation to the welfare of the people. A feeling has, however, been gaining ground that the rigid rule of the association—that no dispensary medical officer should accept a less salary than £200 a year—is at present premature. Many boards of guardians have proved intractable and have refused to fill appointments under such conditions, preferring to pay a locum-tenent four guineas per week for long periods. It may be said that a majority of the several boards throughout the country have rejected the terms which the association wished to enforce, while, on the other hand, many medical candidates have accepted remuneration on a lower scale. The guardians of the North Dublin union have recently made an important departure and have arranged a compromise which has been accepted by their medical officers with the assent of the Local Government Board. It is shortly this. Each medical officer of the dispensary districts is to receive as an initial salary £145 per annum, rising by annual increments of £10 after triennial periods of approved service to a maximum of £195. There are exceptions made in the case of sub-districts and it is stipulated that in the event of a vacancy occurring in either Howth or Baldoyle these two sub-districts should be amalgamated and placed under the charge of one medical officer who is then to be on equal terms as regards remuneration with the other medical men of the union. This compromise seems far from what is really required, but it has the advantage that it only slightly increases the immediate expenses of the guardians while it follows the policy of amalgamation advocated by the Local Government. There are already indications that its lines will be largely followed in other towns in Ireland and that the halcyon time for the unhappy dispensary man contemplated by the Irish Medical Association, when his salary should begin at £200, must be deferred.

A Bacteriologist for Dublin.

The question of appointing a bacteriologist for the city of Dublin, which arose out of the report of the public health committee, came before a meeting of the corporation which took place on Nov. 7th. The consideration of the matter was deferred for two years.

The Small-pox Outbreak at Belfast.

At a meeting of the city corporation of Belfast held on Nov. 3rd the attention of the public was drawn to the very serious increase in cases of small-pox in every district of Belfast save two. There were an attempt, it was also reported, to conceal its occurrence and an indisposition on the part of employers to give the names of all their servants who had been in contact with cases, and when dispensary medical officers (who are supplied with lists of "contacts") visit these they often met distinct refusals for revaccination. Since last month 23 cases had been in the Purdysburn Hospital (one had died), and in the intercepting hospital, where last month there were only two children awaiting their mother to come out of the small-pox hospital, now there are 44 inmates. In reference to the effect of revaccination the following data are interesting and suggestive. Out of 130 cases of small-pox which had been admitted to the small-pox hospital in Belfast in not a single case had the sufferer been revaccinated. One family of six members attacked were sent to this hospital. Two of the members (aged 15 and 11 years) had been vaccinated in infancy—they bore the marks; in the other four no marks were visible. In the case of the vaccinated boys the attack was very slight. Of the other four cases one died and the other three were in a very serious condition and if they recovered would be very badly marked for life. The public have been strongly advised to be revaccinated, although a working-class councillor made the usual statement against such a course on the ground that dirt was the cause of the disease.

Queen's College, Belfast.

Dr. C. E. Shaw has been appointed by the College Council lecturer on ophthalmology to the college in place of the late Dr. W. A. McKeown.

Dinner to Professor J. Lorrain Smith.

A complimentary dinner to Professor J. Lorrain Smith, who is leaving Belfast to take up the professorship of pathology in Victoria University, Manchester, was held in the Grand Central Hotel, Belfast, on Nov. 3rd. There was a large attendance of Professor Smith's college and hospital colleagues, members of the medical profession, and former pupils. The chair was occupied by the President of Queen's College who, after the usual loyal toasts had been given, proposed in happy terms "Our Guest," referring to Professor Smith's many personal and scientific

gifts and services rendered during his ten years' residence in Belfast. During this time he has built up the pathological department, acted as adviser on questions of pathology bearing on public health to the city corporation, and assisted in every way to advance the interests of Queen's College. Professor Smith, in a feeling reply, thanked all present for the compliment done him, spoke of the inadequate endowment of the College and of his pleasant relationship with colleagues and pupils. Dr. R. J. Johnstone, who had been Professor Smith's first demonstrator, on behalf of old workers in his laboratory, presented him with a silver salver "from his old friends and pupils," which Professor Smith very appropriately acknowledged. The last toast was that of "The Chairman," given by Sir James Henderson, to which Dr. Hamilton replied. During the evening solos were rendered by Professor Dixon, Dr. R. W. Leslie, and Dr. John MacIlwaine.

Royal Victoria Hospital, Belfast.

At a meeting of the board of management held on Nov. 2nd, the following motion was proposed by the chairman, Mr. W. Crawford, seconded by Professor J. W. Byers, and unanimously passed:—

The board of management have received the resignation of Dr. J. Lorrain Smith with much regret, and desire to place on record their high appreciation of the able manner in which he has discharged his duties as pathologist to the hospital during the past ten years. They wish him every success in his new sphere of duty as professor of pathology in the Victoria University, Manchester.

Dr. MacIlwaine has been appointed medical registrar, Dr. S. T. Irwin surgical registrar, Dr. H. Stevenson anæsthetist, and Dr. R. M. Beatty temporary pathologist to the hospital.

The Belfast Maternity Hospital.

The new Maternity Hospital, Belfast (an account of which appeared in THE LANCET of Nov. 5th, p. 1319), was formally opened by the Countess Grosvenor, wife of Mr. Wyndham, Chief Secretary for Ireland, on Nov. 7th. There was an immense attendance of the citizens of Belfast. Mr. H. Ewart, chairman of the board of management, presided and gave an interesting account of the charity, which was founded in 1793.

Salaries of Dispensary Medical Officers.

At the weekly meeting of the Banbridge board of guardians on Nov. 7th the following arrangement was passed:—"That the minimum initial salary of any medical officer who may be hereafter appointed to anyone of the districts of Tandragee, Loughbrickland, Ballyward, Crossgar, and Dromore be £100 per annum, to which quinquennial advances of £10 be added till a maximum of £150 be reached. That in the Banbridge district the minimum initial salary be £150, to which quinquennial advances be added till a maximum of £225 be reached. That the salary of Dr. W. James Cowden, medical officer of Dromore, be raised forthwith to £120; that of Dr. J. Taylor, Tandragee, to £130; and that of Mr. James Rowan, of Ballyward, to £140."

Nov. 8th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Prevalence of Infectious Disease in 1903.

AT a meeting of the Academy of Medicine held on Oct. 11th M. Kermorgant read a report on the prevalence of infectious disease in France in 1903. Returns had been received from 77 departments and the results were as follows. Anthrax occurred in le Loir-et-Cher, where it caused two deaths. Cholera occurred in four departments, the number of cases being six. The number of departments in which several of the ordinary infectious diseases occurred were as follows: whooping-cough in 34, diphtheria in 71, choleraic diarrhœa in two, infantile diarrhœa in four, dysentery in ten, typhoid fever (generally conveyed by water) in 76, influenza in 28, parotitis in 24, epidemic alopecia (*pelade*) in two, measles in 55, and scarlet fever in 51. In September, 1903, there was a slight outbreak of plague limited to 18 cases with five deaths among the workers in a factory situated in the suburbs of Marseilles. Varicella occurred in ten departments. Small-pox occurred in 50 departments, those of les Bouches-du-Rhône, le Gard, le Finistère, l'Hérault, la Somme, la Gironde, and la Vaucluse supplying the majority of the cases.

Excision of the Scapula for Primary Osteo-Sarcoma.

At a meeting of the Surgical Society held on Oct. 12th M. Picqué presented a report on a case described to the society by M. Estor. The whole of the scapula, the outer two-thirds of the clavicle, and the upper extremity of the humerus were excised for osteo-sarcoma (*sarcome à myéloplaxes*) of the scapula in a girl, aged 14 years. The humerus, after being resected to the extent of seven centimetres, was sutured to the inner fragment of the clavicle, but the suture did not hold. At the end of ten months there was a relapse. M. Estor extirpated the newly-formed nodules and from this time, which was seven months ago, there has been no recurrence. At present the patient is in excellent general condition and has very satisfactory use of the arm, being able to put on her clothes and dress her hair without assistance.

Ankylosing Arthritis in Tuberculosis.

At a meeting of the Academy of Medicine held on Oct. 18th M. Poncet and M. Leriche brought forward a communication demonstrating that a tuberculous arthritis of dry or plastic character existed which led very generally to a bony ankylosis of the affected joints. From this tendency to bony fixation of the joints the affection has been described as ankylosing tuberculous arthritis, a similar tendency being apparent in all the infective forms of arthritis, especially that due to gonorrhœa. The condition attacked one or more joints, sometimes practically all (mono-articular, oligo-articular, or generalised arthritis). Spondylitis deformans of the Strümpell-Marie type frequently belonged to this group of arthritis and also other varieties of ankylosing articular manifestations, such as the type of Bechterew. It was sharply marked off by the simple inflammatory character of its lesions and by the absence of granulations, of caseation, and of fungoid masses from the ordinary tuberculous disease of joints and from chronic rheumatism and rheumatoid arthritis. It was very probably the result of infection by bacillary toxins, sometimes originating, as is most frequently the case, from virulent tuberculous foci at a distance, whether hidden or apparent, and sometimes elaborated in the blood current. This latter condition of bacillæmia would explain the cases of primary tuberculous ankylosing arthritis (type of Bouillaud), in which under the form of an acute articular rheumatism there was the manifestation of a bacillary infection of which no other suspicion might be forthcoming. The condition was always grave from the point of view of the recovery of function of the affected joints, but was relatively benign in its mono- or oligo-articular forms. In its generalised form, however, it was a terrible disease, since the skeleton became practically a rigid bony frame. In all cases it was the sign of an infection which under certain conditions might change in character, become more virulent, and affect various viscera. In cases of arthritis, of plastic or ankylosing polyarthritis, one should regard tuberculosis as the pathogenic factor and remember, moreover, that the patient may be free from other infections.

Trichocephalus in Relation to Typhoid Fever.

M. Guiart having submitted to the Academy of Medicine a report on the influence of intestinal worms in the development of typhoid fever, M. Blanchard, at a meeting of the Academy held on Oct. 18th, read a report in which it was stated that he had several times examined samples of the fæces of 12 enteric fever patients in the Hôpital Maritime at Brest and had always found ova of trichocephalus in ten of them. Moreover, at the necropsy of one of the two remaining patients six specimens of trichocephalus were found in the cæcum. M. Guiart has similarly examined the fæces of four other men belonging to the services and under treatment at the same hospital for diseases other than typhoid fever; ova of trichocephalus were found in only one of these patients and the number of them was very small. From these facts he concluded that trichocephalus was of frequent occurrence in the intestine of patients suffering from typhoid fever, and suggested that it was those parasites which, while drawing from the intestinal mucous membrane the blood on which they lived, inoculated the mucous membrane with the bacillus of Eberth and gave rise to the infection. On this hypothesis it could be understood why in a population drinking the same contaminated water there were only a few who contracted typhoid fever—namely, those in whose intestines worms, and more particularly the trichocephalus, were present. The inference from these observations was that in any form of enteritis with pyrexia

anthelmintic treatment by means of thymol ought to be commenced immediately, even before the serum diagnosis was made.

Therapeutic Action of Amyl Nitrite.

At a meeting of the Biological Society held on Oct. 22nd M. Vaquet said that by means of sphygmomanometry he had made accurate determinations of the special effects produced on the circulation by amyl nitrite. In a person whose arterial tension is of average quality a slight inhalation of amyl nitrite lowers it by four or five centimetres of mercury and a full inhalation may even lower it by seven or eight centimetres. Free inhalation habitually produces at about the fiftieth second a hypertension of reaction—a hypertension which may exceed the previous tension by four or five centimetres of mercury. The amounts inhaled for therapeutic purposes ought therefore to be very small—namely, from five to six drops. Amyl nitrite swallowed in capsules as recommended by some authorities often disagrees with the patient and does not produce either lowering of the arterial tension or acceleration of the pulse. For the production of an effect it is necessary that the vapour should enter the system suddenly and should, so to say, take the circulation by surprise.

Nov. 7th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Professor Koch on Sleeping Sickness.

AT the first meeting of the Berlin Medical Society after the recess Professor Koch, who is an honorary member of the society, read a paper on Trypanosomiasis. The great hall of Langenbeck House was overcrowded, as the majority of the members were present and in addition to them many of his former assistants and distinguished medical men from other towns had come to welcome Professor Koch on his return from South Africa. He said that as causes of infectious disease protozoa had until recently been regarded as of small importance in comparison with bacteria. It was more particularly the work of Dr. Laveran and of Professor Ronald Ross in connexion with malaria and of Colonel David Bruce, R.A.M.C., in connexion with trypanosomiasis that had drawn attention to the protozoa. Colonel Bruce ascertained that a trypanosoma, conveyed by certain species of gnat (glossina), was the cause of the tsetse disease in animals and of sleeping sickness in the human subject. The symptoms were always the same in the different forms of trypanosomiasis and consisted of fever, anæmia, emaciation, and swelling of the skin, the glands, and the spleen. Professor Koch then showed lantern pictures of trypanosoma from microscope preparations, both unstained and also stained according to Romanowsky's method. He next proceeded to describe the different forms of trypanosomiasis, beginning with that of the rat. The protozoa of this form were of but little virulence, so that the animals did not appear to be very ill. They were inoculable on rats only and this was done by the agency of fleas. Tsetse disease, on the other hand, was prevalent throughout Africa and might be communicated to cattle, dogs, sheep, and goats; there were, however, differences in the liability of the various animals to contract the disease. The so-called surra disease occurring in Asia, which was communicable to horses, mules, camels, and cattle, and also the "mal de caderas" which was endemic in South America, were both of them forms of trypanosomiasis. It must be mentioned that a mild form of trypanosomiasis occurred in South Africa in cattle, its peculiarity being that its protozoa were of twice the size of other trypanosomata. For a long time it was generally held that trypanosoma was found in the lower animals only, until in 1901 Dr. Forde discovered the protozoon in a patient who was alleged to suffer from malaria and accordingly had taken quinine. Dr. Castellani also found trypanosoma in the cerebro-spinal fluid of patients who had died from sleeping sickness. Colonel Bruce proved it to be the real cause of sleeping sickness and the so-called trypanosoma fever was ascertained by him to be sleeping sickness in the earliest stage. This discovery explained previous observations to the effect that negroes who had migrated to some country where sleeping sickness did not exist had been known to suffer from this disease eight years after they had left Africa. Two groups of trypanosomiasis must be distinguished—namely (1) the trypanosomiasis of rats, the germs of which were of constant virulence and were inoculable on rats only; and (2) the tsetse disease, the germs of which showed morphological differences, were inoculable on a number of animals, and also varied in virulence. Researches had been carried on in the case of two horses presented to the Berlin Zoological Garden by an officer in Togoland, German West Africa. These horses during their journey to the coast had traversed a tsetse-infected district and trypanosoma was present in both of them, but the germs in one were extremely virulent, while in the other they were of but little virulence. The trypanosoma of tsetse disease was the only one which could be artificially made more or less virulent, and it must therefore be regarded as in a stage of mutation according to the doctrine of Professor de Vries. The classification of trypanosomiasis had caused not a little controversy and Professor Koch's opinion that surra disease was also a form of trypanosomiasis had been much contested. Dr. Laveran especially had tried to distinguish very many forms of the disease but his views had not been confirmed. The same was formerly the case in regard to malaria, of which a great many varieties were at one time described, whereas it is now known that only three types existed. Much had been expected from immunisation as a means of preventing the disease, and, indeed, immunity was obtainable by the inoculation of tsetse trypanosoma of little virulence. Nevertheless, this proceeding was practically useless as trypanosoma might be found in animals which were apparently quite healthy and the disease was liable to be disseminated by these latent organisms. The only useful system was to destroy all the animals suffering from trypanosomiasis, a proceeding which had proved very useful in Java. As for the human species, a specific remedy acting as quinine did against malaria had not yet been discovered. The administration of arsenic or a combination of this drug with trypan red had been recommended as useful. Little had as yet been done towards the prevention of trypanosomiasis and it was desirable that national combinations should be formed for that object. In conclusion, Professor Koch said that Germany, in the interest of her African colonies, ought to give every encouragement to the study of the disease.

Questions relative to Hospital Nursing.

A sensational trial lately took place before a criminal court at Hamburg, grave charges having been made against the nursing system of the Hamburg State hospitals in a pamphlet published by some citizens of that town. The pamphlet, of which the title was "Under the Mask of Charity," charged the hospital authorities with allowing young female nurses to attend male patients, even in cases where male attendants would have been required for reasons of morality. Parents were, moreover, warned in the pamphlet against permitting their daughters to become nurses because they would be demoralised in the hospital. Respectable patients were said to have felt disgusted by the kind of services rendered them by young female nurses and the Hamburg authorities were charged with doing nothing to remedy these abuses the existence of which was well known to them. It was especially said in a second edition of the pamphlet that a committee of the Senate had been formed for the purpose of visiting the hospitals without previous notice in order to examine the state of matters but that the matron had been informed of the proposed visit and had removed the young nurses from the male wards and replaced them by older ones. The result of the committee's investigation was that the evils described in the pamphlet either did not exist or were very much exaggerated, so that the Senate decided to have the authors prosecuted in the law courts. Some witnesses gave evidence that while being examined by a hospital physician they were nearly nude and that they felt ashamed by the presence of young nurses. Another patient gave evidence that he suffered from hæmorrhoids which were dressed by a nurse. Asked by the defendants' counsel whether nurses had been present at catheterisation of male patients, the physician, Professor Lenhartz, said that he did not know whether this had really happened but that he would have disapproved of such a system. A report was then read of a meeting of hospital managers and medical officers held some time ago in Berlin to discuss the question of nursing, where all unanimously agreed that female nursing was in every respect superior to male nursing, even in the case of male patients. No evidence of anything of the nature of immorality was elicited at the trial, the result of which was

that the defendants were fined 400 marks (£20) each for libel.

The Langenbeck Fund.

In 1897 the family of the late Professor von Langenbeck, the celebrated surgeon of the University of Berlin, bequeathed to the German Surgical Association a sum of 50,000 marks (£2500), the interest accruing from which was to be used for sending German surgeons—civil or military—to foreign theatres of war, where they would have opportunities of studying military surgery. When a specified time during which no war occurred had elapsed the money was to be used for the encouragement of theoretical study in that branch of surgery. The trustees of the fund under the terms of the bequest are the General Staff Surgeon of the Army, the President of the German Surgical Association, and the successor of Professor von Langenbeck in his chair as professor of surgery. By the present Russo-Japanese war the provisions of the bequest have come into force and Staff Surgeon Dr. Schäfer has therefore been sent to Manchuria by the trustees.

Nov. 8th.

Obituary.

HERBERT WILLIAM ALLINGHAM, F.R.C.S. ENG.,

SURGEON TO HIS MAJESTY'S HOUSEHOLD; SURGEON-IN-ORDINARY TO H.R.H. THE PRINCE OF WALES; ASSISTANT SURGEON TO, AND LECTURER ON OPERATIVE SURGERY AT, ST. GEORGE'S HOSPITAL.

THE death has occurred in very tragic circumstances of Mr. Herbert William Allingham, senior assistant surgeon to St. George's Hospital, and one of the most successful and best known operating and consulting surgeons in the country.

Allingham was born in 1862, being the eldest son of Mr. William Allingham, who for many years was one of the first surgical authorities on diseases of the bladder and rectum, and who is still alive, though he has now retired from the practice of his profession. He was educated at Chatham House, Ramsgate, and University College School, and entered St. George's Hospital as a student in 1879. He showed from the very first, as well as an extreme interest in the profession that he had adopted, remarkable surgical ability. As a student it was noticed by his contemporaries that in the dissecting room Allingham always learnt his anatomy with a view to operative procedure and this at a time when he had not even passed the intermediate examination of the Royal College of Surgeons of England. The same zeal marked his attention at the clinical lectures then being delivered at St. George's Hospital by Mr. Timothy Holmes and Mr. Pickering Pick, and he was never known to miss an interesting operation. Not at all a bookish man, Allingham used lectures and demonstrations as they should be used. He took notes of such points as his teachers laid stress upon, he examined for himself whenever possible the patients whose cases had been quoted as examples by the lecturers, and he went to his manual, or preferably to some experienced friend, for an explanation of what he could not follow. In this way he obtained as a boy a close grip of the practical side of surgery. The essentials were fastened for ever in his mind, details he added as they came one by one into his purview.

Immediately after becoming house surgeon his real knowledge of the principles and practice of operative surgery became obvious to the staff of the hospital as well as to all the students. Allingham when house surgeon was followed about from ward to ward by a troop of students, senior and junior, to whom in the simplest and clearest language he would demonstrate the conditions present in patients and indicate the reasons for the treatment that was being pursued. In this manner during his house-surgeoncy of one year's duration he went twice and systematically through the whole of Mr. Holmes's "Manual of Surgery." He found illustrative cases upon which he could hang his demonstrations and day after day in unadorned language and with endless patience he explained the common-sense principles underlying surgical practice. And such was Allingham's humanity and tact that so far from the patients resenting being treated as examples they positively welcomed his attentions. They saw that his demonstrations were never given when likely to cause pain to themselves, and they knew by experience that his personal ministrations to their troubles were given with ungrudging sympathy, so that it was common to see a patient helping Allingham to exhibit the various points of his pathology and taking an intelligent and amused interest in the efforts of the students to master the clinical lesson. The result to Allingham's pupils was the passage of their examinations with readiness; the result to himself was to make him extraordinarily familiar with the book-learning of the profession, which as a student himself he had not acquired. Immediately after his office as house surgeon Allingham began to read for the Fellowship of the Royal College of Surgeons of England. This he passed in 1887. In the same year he was elected surgeon to the Great Northern Central Hospital and demonstrator of anatomy to St. George's Hospital. Shortly afterwards he was elected surgeon to St. Mark's Hospital, and in 1894 he became assistant surgeon to St. George's Hospital.

On joining the staff of St. George's Hospital he was at once recognised as a distinguished acquisition to the institution. As a rule an assistant surgeon upon his first election has but little special operative experience beyond that gained as a house surgeon, but Allingham, although only 32 years of age, was an experienced operator when patients first began to come under his hands at St. George's Hospital. He had for years assisted his father in one of the largest and most lucrative practices in London and he had used his opportunities at St. Mark's Hospital and the Great Northern Central Hospital in every available manner. At the former institution he obtained the experience necessary to edit his father's well-known book on rectal diseases, which in its last issues may be regarded to a great extent as the son's work; at the latter he obtained the varied experience which determined him to become a general surgeon in spite of the pecuniary temptations to remain a specialist. No young surgeon ever obtained a footing upon the staff of a great hospital with finer chances of success than were Allingham's when he was elected assistant surgeon to St. George's Hospital, and from this point forward his career, which has just ended so abruptly, was one of rapid and unbroken prosperity. His reputation as an operating surgeon, justly acquired by enormous industry, courage, and skill, spread to the public, and he was called into consultation by many distinguished physicians in their most important cases. As an operator he was rapid, neat, and accurate. He was ready to take great risks when they had to be taken, and was collected and confident in all emergencies. Few young men have ever been so successful, and admitting that Allingham's introduction to the profession was fortunate, in that he was able while little more than a lad to work in association with his father and to succeed his father in useful appointments, still, these conditions would have proved of little use if Allingham had not been by temperament, by every instinct in his mind, and by every fibre in his body, an operating surgeon.

Allingham was not a prolific writer, but his papers in our columns and in the transactions of certain learned societies were valuable contributions to professional knowledge. The book on rectal diseases, which was first written by his father, is in a seventh edition and remains the standard work on the subject. Allingham also wrote a good book on "Operative Surgery" and contributed a short, concise article upon the diagnosis of diseases of the rectum to "Allbutt's System of Medicine." His writing bore the stamp always of his personal experience; he wrote in simple phrases of what he knew. In 1902 he was selected as surgeon-in-ordinary to the Prince of Wales and in the same year he became surgeon to His Majesty's household, having been previously surgeon to the household of His Majesty when Prince of Wales.

Allingham was a popular man, enjoying the friendship of a large number of his colleagues and patients. He was distinguished by his extreme courtesy which was indicative of his wish to show kindness whenever possible. And he proved himself a true friend to many of his juniors. There are young men, some of them now successful and even distinguished, who would readily testify that at that critical point in their careers when practical help may decide the whole future Allingham stood behind them. Those who are so invariably pleasant in their demeanour as Allingham was are frequently sweet only on the exterior. So true is this that the universally gracious person is always suspected of insincerity. But Allingham's kindness of heart was as genuine as his kindness of manner. If he thought that a

man deserved help he would give it in a full and thorough way, as many of his colleagues and pupils could prove.

Allingham was too absorbed in his work and his enormous practice kept him too much engaged in its routine to permit him to have resources outside his profession, a point which is not without its bearing upon the sad termination of his career. In his private life he had but one interest and that failed him in a tragic manner. He was married in 1889 to Fräulein Alexandrina von der Osten, to whom he was a most devoted husband. Mrs. Allingham, who died in January of this year, was an invalid for a long time, suffering from a nervous affection which kept her husband miserably on the rack, preventing him from obtaining the solace of a home life during his overbusy public career. He was a childless man and he fell into deep depression after his wife's death, for she and his profession were the only vital interests that he possessed. And here fortune pressed very hardly upon him. The consolation of work was denied him at the very time when it was most called for. For years he had worked too hard; at the time when in work he might have found relief from his sorrow he became incapacitated. About 18 months ago he had the terrible misfortune, in the course of operating upon a patient, to contract an obstinate and insidious malady. In this fact, his friends are convinced, lay the real cause of his inability to shake off the depression following his wife's death. Serious though his apprehensions might have been concerning his health, had it not been for his private grief and the complete solitude of his life he would have mastered them. Profound as his regret for his dead wife was, his strong and naturally sanguine temperament would have triumphed if his physical health had served him well. But fate imposed too hard a strain upon him, and he yielded.

To his aged father and his brothers and sisters we tender our sincere sympathies. A brilliant figure has passed from our professional stage, but the memory of Allingham, his youth, his courage, his kindness, and his learned dexterity will long abide at St. George's Hospital.

JAMES BURN RUSSELL, B.A., M.D., LL.D. GLASG.,

MEDICAL MEMBER OF THE LOCAL GOVERNMENT BOARD FOR SCOTLAND.

DR. J. B. RUSSELL, who died on Oct. 22nd, is a great loss to the scientific world. He belonged to the modern public health movement, which is of no country and of no place. For a whole generation he has exercised the far-reaching and indefinable influence that flows only from great service well done. He was born at Rutherglen 67 years ago. In personal appearance he much resembled his father who was a lowland Scot. His mother was Celtic. Both strains were manifest in his character. He had at once the vivid imagination of the Celt and the tenacity of purpose of the Scot. He had, too, the invincible seriousness of both. He was educated at the High School of Glasgow and afterwards at the University, where he took his B.A. in 1858. All through life his Arts course meant a great deal to him. At the busiest time of his administrative career he found leisure enough to keep touch with the literature of his day and, as many references in his reports and articles showed, he had always at command the literary phrase that marks the man of wide culture. He did not at once turn to medicine. He went with Lord Kelvin on the successful laying of the Atlantic cable, the first great union of East and West. He was for a time in charge of the station at Valentia. He never varied in his reverence and admiration for the greatness of his chief and always spoke of him with enthusiasm, and congratulated himself on his early contact with that master mind. Later he returned to Glasgow, studied medicine, and graduated M.D., C.M. in 1862. In January, 1863, Dr. (now Sir William) Gairdner was appointed the first medical officer of health of Glasgow. When Sir William Gairdner retired from public health work in 1872 Dr. Russell became medical officer. By this time Glasgow had grown into a greater consciousness of its own sanitary needs and the new medical officer had to devote his whole time to the duties of his office. It is difficult to realise to-day what Glasgow was like without a medical officer of health. Some hint of its conditions may be gleaned from Dr. Russell's vivid pictures in the "Evolution of the Public Health Function in Glasgow," one of the most striking of his many pamphlets. It was written at a time when he was laid on his back with illness. From 1872 to 1898 he acted as medical officer of health of Glasgow, and all the world knows what changes followed his unwearied energies. In 1898 he was asked to accept the post of medical member of the Local Government Board. It is an open secret that he had been pressed to accept the post at the time when the Board was first constituted (1894); but he feared that so great a departure might be too much for his strength. But when the request was renewed on the retirement of the late Dr. J. McLintock he accepted. How great his services to the administrative aspects of the public health movement have been in his latest capacity only those can tell whose business it has been to watch that movement from year to year. It is true to say that not a county, not a town, not a parish remains uninfluenced for good by the thorough work that Dr. Russell did in six years, most of them years of indifferent health, some of them years of suffering.

Dr. Russell received the degree of LL.D. from his University in 1885. He was awarded the Stewart prize of £50 in 1895. In 1899 he received from the Royal College of Physicians of London the Bisset-Hawkins gold medal for zeal in the promotion of public health. This was the first award. He was from the beginning a member of the Sewage Commission. That he never received any mark of Royal favour merely shows that the advisers of the Crown in Scotland had not discovered what was obvious to the medical profession for half a generation.

In his best days Dr. Russell was a tall, slim man. Early in life he had acquired the student's stoop. He had a well-balanced head, a slightly Roman nose and grey-blue eyes; in middle life a flowing beard, in later life a shorter grey beard. He was always full of energy. As a student he went on walking tours and as a grown man he never lost his taste for hill-climbing. Nothing but physical incapacity interfered with his walking exercise and he took no other. He was rigidly ascetic in his habits, being all his life a teetotaler, and though for a time he smoked late in life he gave up the habit. He was an indefatigable worker at the duty laid before him and his thoroughness in detail was marvellous, so that he let nothing even of a trivial kind go from his hand without the most minute study and elaboration. He could follow out a policy through years of detail, being tenacious of his purpose to the last. He was not ready in argument where give-and-take was the game but when left to develop his own thoughts in reflection he was fluent and on occasion eloquent. He had a high ideal of public duty and would now and again flame out with some scathing and passionate denunciation of abuses, and when that temper was on him he could scatter opposition to the winds as he rose to the fighting spirit in his work. He had the most intimate sense of social needs and he spared neither himself nor others in seeking after the sound method and the good result. His pen was never idle. Reports, lectures, papers, circulars flowed from him from year to year and they were always informed with the concrete, precise facts of his work. In Glasgow he had such an opportunity as falls to the lot of few and he never failed to turn his opportunity to account. If all he has written were collected it would make one or two considerable volumes, even if what was ephemeral were stripped away. It is to be hoped that the city of his great service will publish the papers as a memorial to his name. Many of them are of permanent value to public health literature.

For the last five years Dr. Russell resided in Edinburgh. He had been seriously ill from time to time for two or three years and in the last six months of his life suffered a great deal of physical pain. But he never entirely relinquished his official duty, indeed, for the last six months he seems to have laboured as strenuously as in his best days. He had to undergo an operation towards the end and on the morning of the day before this he finished his last official deliverance and died fighting in the line of battle. His body was taken to Glasgow, where it reposes in the family vault in the Necropolis. A large multitude was there to witness the last sad ceremonies. The sanitary staff, numbering nearly 200, lined the walks to the grave. Their oldest two members bore a beautiful wreath on high and placed it on the tomb. Here were the men now an army; in his early days he fought single with the enemy. He now lies there in the heart of the Glasgow that he loved—the old Glasgow of the poor that have no helper; of the slum-owners that have no bowels of compassion; of the infirmary, which made death easier to the worn-out pilgrim or brought back life to the weary; of the cathedral, which rises out of the middle age in majesty to symbolise the undying pity, the enthusiasm of humanity, the service of man.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are

announced:—Dr. Giuseppe Bocardi, professor of microscopic anatomy in the University of Naples.—Dr. Umberto Flora, *privat-docent* of internal pathology in Florence.—Dr. Max Bartels, a well-known Berlin practitioner who devoted himself largely to the study of anthropology. His work on "Medicine amongst Nature Folk" has enjoyed a large sale.—Dr. Alfred Fritschi of Freiburg who took a very active part in the organisation of the Baden Medical Societies, aged 63 years.—Dr. Emil Maier, director of the ophthalmic clinic in Carlsruhe, at the age of 69 years.—Dr. Hugo Huppert who only retired a couple of years ago from the chair of medical chemistry in the German University of Prague. He was responsible for the volume of Gmelin's manual which treats of medical chemistry. He took a considerable interest in politics and was one of the leaders of the German party in Bohemia. He was 72 years of age.

Medical News.

EXAMINING BOARD IN ENGLAND BY THE ROYAL COLLEGES OF PHYSICIANS AND SURGEONS.—The following gentlemen passed the first examination of the Board in the subjects indicated at the quarterly meeting of the examiners:—

Chemistry.—Richard Bernard Abraham, St. Thomas's Hospital; Stanley Denovan Adam and Rupert Blake Adams, St. Mary's Hospital; Rex Carrington Brewster, London Hospital; Sidney Trevor Davies, St. Bartholomew's Hospital; Charles William Gee, University College, Liverpool; Walter Parker Harrison, Brighton School of Science; Cyril William Jenner, London Hospital; George Bertrand Lucas, Charing Cross Hospital; Russell Hardy Sidney Marshall, St. Mary's Hospital; Philip Douglas Oakley, Bradford Technical College; Ivor Ridge-Jones, Cambridge University and St. George's Hospital; Arthur Lowry Robinson, University College Hospital; Henry Edwin Scargill, Yorkshire College, Leeds; Leonard Byron Shirtliff, London Hospital; Dudley Macauley Stone, St. Bartholomew's and St. Mary's Hospital; and David Phillips Williams, Charing Cross Hospital.

Practical Pharmacy.—Claude John Eddowes Bennett, Westminster Hospital; Hubert Vernon Bettley-Cooke, London Hospital; Henry Alfred Biden, King's College Hospital; Arthur Cecil Barker Biggs, University College Hospital; George Noel Braham, Owens College, Manchester; Ronald Anderson Bryden and George Douglas Gordon Fergusson, St. Mary's Hospital; George Francis Carr, Westminster Hospital; John Cook, University College, Cardiff, and Guy's Hospital; David Davies, London Hospital; Sidney Clarence Foster, St. Bartholomew's Hospital; Philip Julius Franklin, King's College Hospital; Arthur Gordon Valpy French, St. Thomas's Hospital; Henry Wyndham Goodden, University College, Bristol; William Henry Stewart Hodge, Henry William Memis May, William Steward Nealor, and Francis Morley Newton, St. Bartholomew's Hospital; William Stee'e Mitchell and Reginald Goldie Newton, St. Mary's Hospital; William Thomas Quinlan, University College, Cardiff; Arthur Rhodes, private study; Frank Stuart Tamplin, St. George's Hospital; Donald Wainwright, Middlesex Hospital; Stanley Martin Wells, Guy's Hospital; and Arthur John Ormsby Wigmore, University College, Bristol.

Elementary Biology.—Richard Christopher Clarke, University College, Bristol; Evan Percy Edwards and Gordon John Gallagher, University College, Liverpool; John Reginald Keith Fenning and Albert Ernest Hempleman, London Hospital; Alexander Kennedy Glen, St. Mary's Hospital; Frank Melville Harvey, Stonyhurst College; Frank William Hollingsworth and Maurice Joseph Marks, Guy's Hospital; Doric Yvon Hylton, Merchant Venturers Technical College, Bristol; Stuart Hardy Kingston, University College, Bristol; Jeremiah John O'Mullane, Queen's College, Cork; William Thomas Quinlan and Gwlym Ambrose Williams, University College, Cardiff; Bernard Rickman Shillitoe, University College, Hospital; Stanley Walter Turtle, London Hospital; Francis James Wheeler, Guy's Hospital; Howell Meirig Williams, University College, Liverpool; and Reginald Joseph Wooster, St. Mary's Hospital.

The following gentlemen passed the second examination of the Board in anatomy and physiology at the quarterly meeting of the examiners:—

Charles James Armstrong-Dash, St. Bartholomew's Hospital; Josiah Browne, King's College Hospital; Percy John Chissell, Middlesex Hospital; Frank Clayton, B.A. Camb., Cambridge University and King's College Hospital; Eric Abdy Collins, Reginald Branch Dawson, Thomas Hugh Edey, and John Wilfred Featherstone, Guy's Hospital; Herbert Gall, St. Bartholomew's Hospital; Eric Worsley Gandy, B.A. Camb., Cambridge University and Westminster Hospital; Andrew Simon Swan's Goonewardene, L.M. & S. Ceylon, Ceylon Medical College and University College Hospital; Morrice Greer, University College, Liverpool; Sydney Harold Griffiths, Middlesex Hospital; Thomas Smith Harrison, Owens College, Manchester; John Keith Anderson Helm and Alfred Vernon Ledger, Guy's Hospital; Alfred Ernest Wilfrid Hird, Birmingham University; Frank Norman Spurrell Hitchcock, St. Thomas's Hospital; Roland Augustus Hobbs, St. Mary's Hospital; Frank Garfield Hodder-Williams, St. Bartholomew's Hospital; Thomas Robert Lloyd Jones, London Hospital; Robert Lloyd, University College, Sheffield; Hugh McLean, B.A. Camb., Cambridge University; Frederick Morres and Maurice Dytall Price, Guy's Hospital; Herbert North, Yorkshire College, Leeds; Ernest Nuttall, Owens College, Manchester; Joseph Owen, Bernard Varvill, and Jacob Hodgson Wickert, London Hospital; Shantaram Raghunath Shirgaokar, B.A. Bombay, Bombay and King's College Hospital; John Allister Renshaw, Edward Leonard Taylor, and Hugh Owen Williams, St. Bartholomew's Hospital; Percy Stanley Tomlinson, University College, Bristol; Harold Thomsett Treves, St. Thomas's Hospital; Alan Geoffrey Wells, St. Mary's Hospital; and Harold Fergie Woods, Middlesex Hospital.

Passed in Anatomy only.—Francis Hone Lloyd Marson, Middlesex Hospital.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen passed the preliminary science examination in chemistry of the Royal College of Surgeons of England at the quarterly meeting of the examiners for the licence in dental surgery:—

Edwin Leonard Brown, Reginald Algernon Glindon, and Herbert Victor Sharp, Guy's Hospital; Gwilym Llewelyn Davies, University College, Cardiff; David George Gibb, Charing Cross Hospital; Sydney Frederick Glassington and Arthur Pusey, Middlesex Hospital; James Pensam Leeming, Technical School, Manchester; Howard Montague Shefford, Polytechnic Institute; and George Frederick Corsellus Harvey, London Hospital.

TRINITY COLLEGE, DUBLIN.—At examinations held in Michaelmas term the following candidates passed in the subjects indicated:—

PREVIOUS MEDICAL EXAMINATION.

Anatomy and Institutes of Medicine.—Henry J. Keane, Henry D. Woodroffe, Albert J. T. M'Creery, John C. Baker, Francis O'B. Kennedy, Langford V. Hunt, James G. G. Moloney, Henry P. Hart, and Herbert Allport.

Physics and Chemistry.—Arthur H. Laird, John Gray, Julian B. Jones, William E. A. Moore, Wellesley R. Allen, Richard D. Fitz-Gerald, John H. Morton, Cecil J. Grene, Henry R. Kenney, and James D. K. Roche.

Botany and Zoology.—Henry de C. Dillon and Harold S. Sugars.

PREVIOUS DENTAL EXAMINATION.

Anatomy and Institutes of Medicine.—Charles R. Kidd and Arthur K. Macdonald.

Materia Medica.—Charles R. Kidd.

UNIVERSITY OF OXFORD.—The Vice-Chancellor has appointed Professor Edwin Ray Lankester, M.A., Honorary Fellow of Exeter College, Director of the Natural History Museum, South Kensington, to be Romanes lecturer for 1905. Sir John Burdon Sanderson, Bart., D.M., F.R.S., Hon. Fellow of Magdalen College, late Regius Professor of Medicine, has been constituted a perpetual delegate of the University Museum.

SOCIETY OF ARTS.—The Society of Arts will commence its fourth half century on Nov. 16th, when Sir William Abney, as chairman of the society's council, will open the 151st session with an address. The subjects on which papers will be read at the meetings before Christmas include British Trade, Canals, the St. Louis Exhibition, Patent Law, Burma, and Street Architecture. There will also be a course of lectures on wind instruments, with musical illustrations.

THE MISSIONS TO SEAMEN.—In response to a request made by the Missions to Seamen, Messrs. Burroughs and Wellcome have given that society a case of tabloid medicines with a copy of their "Brief Medical Guide for Explorers, Missionaries, &c.," to be used only in circumstances outside the reach of medical aid. They are given as outfit for the Bristol Channel Mission steamer *Eirene* in her visits to lightships and other vessels in the outer anchorages for use by the Roadstead Chaplain of the Missions to Seamen.

SOCIETY OF ANÆSTHETISTS.—The annual dinner of this society was held at the Imperial Restaurant, Regent-street, on Oct. 21st. Mr. C. Carter Braine, occupied the chair. 61 guests and members were present, the former including Mr. John Langton (President of the Medical Society of London), Dr. Brodie, Mr. C. S. Wallace, Mr. P. J. Freyer, and Mr. W. Griffiths. Mr. Langton proposed the toast of "The Society of Anæsthetists" and Mr. Carter Braine in responding observed that the dangers to be overcome by the anæsthetist were increasing year by year. Full notes of all administrations should be kept. The outlook for the present session was good. Dr. J. F. W. Silk proposed "Our Guest" and Dr. Brodie suitably replied. Mr. Freyer, in proposing the toast of "The Chairman," said that a good anæsthetist was defined by the chairman to be one who kept his eyes and ears open and his mouth closed. He himself would divide anæsthetists into three classes. The first told funny stories during the operation, the second included those who suggested "wrinkles" to the surgeon, and in the third class was the man who kept his mouth closed, and this

last was in his opinion the ideal anæsthetist. The toast was received with musical honours. The chairman, in responding, said that great thanks were due to Mr. Crouch, the junior secretary, who had organised the dinner. A portrait of Mr. T. G. Morton, who introduced anæsthesia into the United States, was on the ménu cards. Mr. Arthur Walenn by his singing and Dr. Byrd-Page with his sleight of hand greatly added to the enjoyment of the evening.

CENTRAL RUSSIAN INSTITUTE FOR THE STUDY OF NEUROLOGICAL AND ALLIED DISEASES.—In the Association for Normal and Pathological Psychology connected with the Imperial Medical Academy, on the initiative of the academician., Professor V. M. Bechterew, last year it was suggested that in St. Petersburg there should be established a Psycho-Neurological Institute (a special superior scientific professional establishment) for the whole of Russia, in which all questions affecting psychology, neurology (including suggestion and hypnosis), pathological psychology, and criminal anthropology should be studied.

DONATIONS AND BEQUESTS.—By the will of Mrs. Selina Laura Clark the following sums are left for charitable purposes: £1000 to the Hospital for Consumption and Diseases of the Chest, Brompton; £1000 to the London Hospital; £500 to the Infant Orphan Asylum, Wanstead, and a like sum to the Cancer Hospital at Brompton, to St. Mary's Hospital, to the Middlesex Hospital, to University College Hospital, to the Royal Free Hospital, to King's College Hospital, to Charing Cross Hospital, to St. George's Hospital, to Westminster Hospital, and to Earlswood Asylum; £200 to the London Fever Hospital and similar sums to the British Home for Incurables, Clapham-rise, and the Royal Hospital for Incurables, Putney. Mrs. Clark left the residue of her estate, after certain other bequests, upon trust in equal shares for the following institutions: The Chelsea Hospital for Women, the Victoria Hospital for Children, Chelsea, the Royal Society for the Prevention of Cruelty to Animals, and Miss Weston's Sailors' Home at Portsmouth.—Under the will of Mr. Henry Evans, of Highfields, Darley Abbey, Derby, and of Ascog, Bute, £10,000 are bequeathed to the Derbyshire Royal Infirmary for the purpose of building and equipping the permanent ophthalmic department.

TOTTENHAM HOSPITAL.—A festival dinner in aid of the extension fund for Tottenham Hospital was held at the Savoy Hotel, London, on Nov. 2nd, with Lord Burnham in the chair. Among those present were Lord George Hamilton, Sir Francis Cory-Wright, Sir E. H. Currie, Mr. J. Langton, Dr. P. Kidd, Dr. R. M. Leslie, Dr. A. J. Whiting, and Dr. A. E. Giles. Lord Burnham, in proposing the toast of "The King," stated that King Edward's Hospital Fund had raised since 1897 the sum of £1,100,000 and had distributed in yearly grants over half a million sterling. This toast having been duly honoured, Lord Burnham rose and proposed "The Queen, the Prince and Princess of Wales, and other Members of the Royal Family," and his reference to the Princess Louise, Duchess of Argyll, who is president of the Tottenham Hospital, as "the gentle and gracious princess who took the keenest interest in the welfare of the institution" was received with great applause, and the toast was pledged with great enthusiasm. Lord Burnham again rose and submitted "Prosperity to the Tottenham Hospital." He said the hospital was founded about the time that Lord Lister first made known his grand discovery in surgery which has robbed operations of all terror. The Tottenham Hospital provided the highest medical science and the greatest surgical skill for half a million people; it brought to their very doors the West-end physician and the well-tried surgeon. The hospital required 50 more beds, a new operating theatre, an anæsthetisation room, and repairs to the entire premises. When the new beds had been secured they would all be filled, for humanity carried perpetually sorrows with it. Mr. Langton, who responded, observed that the public subscribed one and a quarter millions of money every year to the London hospitals and predicted that if those institutions became State-aided that benevolence would cease. He assured his audience that if money was provided for the Tottenham Hospital the medical staff would provide the necessary professional skill. Sir F. Cory-Wright, chairman of the hospital, who also replied, said that Tottenham was neither a local nor a cottage hospital, but it was one of the London hospitals and would be soon one of the largest. The toast of "The Visitors" was given by Lord George Hamilton who pointed out how the hospital was situated in a district which continually received the overflowing population of London and though the people were crowding into that locality in countless thousands there was no corresponding increase of wealth and that of itself necessitated an appeal to the public. Sir E. H. Currie having responded, Dr. Kidd proposed the toast of "The Chairman," which Lord Burnham acknowledged. In the course of the evening it was announced that the total sum of money collected for the hospital was over £4000.

INFANTILE MORTALITY IN RUSSIA: RUSSIAN IGNORANCE OF HYGIENE.—At a lecture on hygiene before the Women's Health Society in St. Petersburg on Oct. 9th, Professor Tarchanoff said, in recommending to his hearers the supreme importance of teaching hygiene to Russian women, that "at present out of every 1000 Russians about 50 per cent. die before the age of five years. A million and a half of people are buried in Russia every year, no one knows why, and this is due to our gross ignorance." Then dilating on the risks attendant on military operations, he said that the appreciation of these risks had led the commander-in-chief, General Kuropatkin, to send in advance of his army of soldiers an army of medical men, the result of which has been the absence of epidemics at the theatre of war.

WEST SOMERSET MEDICAL DINNER.—On Nov. 4th Mr. Justice Wills and Sir Patrick Manson were guests at the West Somerset medical dinner, an institution established five years ago to promote acquaintance and good feeling among the practitioners of the district. Sir Alfred Wills, after expressing his pleasure at being present at the dinner, remarked on the great improvement in the character of medical evidence. He observed that whereas when he was first called to the Bar more than 50 years ago medical witnesses were prejudiced partisans and their evidence commanded no respect, now usually they were free from bias and gave scientific and valuable testimony. Sir Patrick Manson regretted that a similar improvement was not to be found among members of the Bar. The last man who borrowed £5 of him and never repaid it was a lawyer.

ROYAL INSTITUTION.—A general monthly meeting of the members of the Royal Institution was held on Nov. 7th, Sir James Chrichton-Browne, treasurer and vice-president, being in the chair. H.H. the Raj Rana Bhawani Singh Bahadur of Jhalawar, Mr. J. Jennens, and Mr. E. J. Preston were elected members. It was announced that the institution had received a bequest of £100 under the will of the late Miss Harriet Jane Moore. The special thanks of the members were returned to Dr. Ludwig Mond for his donation of £755 for the purpose of erecting a lift from the basement to the second floor of the institution and any surplus after the completion of the work is to go to the Research Fund. During the recess the entrances and exits of the lecture room of the Royal Institution have been materially improved by the erection of two covered-in iron staircases and the widening of the doorways, and the ceiling has been considerably raised.

UNIVERSITY OF CAMBRIDGE.—The following are the regulations for the examination in tropical medicine and hygiene:—Two examinations in tropical medicine and hygiene will be held in Cambridge during the year 1905. The first examination will begin on Jan. 10th and the second on August 15th. Each examination will extend over four days. Any person whose name is on the Medical Register is admissible as a candidate to the examination provided (1) that a period of not less than 12 months have elapsed between his attainment of a registrable qualification and his admission to the examination; and (2) that he produce evidence, satisfactory to the syndicate, that he has diligently studied pathology (including parasitology and bacteriology) in relation to tropical diseases, clinical medicine, and surgery at a hospital for tropical diseases, and hygiene and methods of sanitation applicable to tropical climates. The examination will be partly in writing, partly oral, and partly practical and clinical. The clinical part will be conducted at a hospital for tropical diseases, at which cases will be submitted for diagnosis and comment. Every candidate will be required to pay a fee of six guineas before admission or re-admission to the examination. A candidate who, after being approved for admission, fails to present himself at the examination will not have the fee returned but will be entitled to present himself without further fee

on one subsequent occasion. Every candidate who passes the examination to the satisfaction of the examiners will receive from the University a diploma testifying to his knowledge and skill in tropical medicine and hygiene. All applications for information respecting the examination should be addressed to Dr. G. H. F. Nuttall, F.R.S., Pathological Laboratory, Cambridge. Candidates who desire to present themselves for the examination must send in their applications on forms supplied for the purpose and transmit them, together with the required evidence of study and the fee of six guineas, to the Registrary of the University, Registry, Cambridge, not later than Dec. 23rd for the January examination, or not later than July 31st for the August examination. Cheques should be crossed "Barclay and Co., Ltd."

PRESENTATION TO A MEDICAL PRACTITIONER.—Mr. T. Glasbrook Davies, L.R.C.P. & S. Edin., has been presented by the workpeople employed at the Cwmbwrla works, Swansea, with a marble timepiece and ornaments on the occasion of his marriage.

BOOKS, ETC., RECEIVED.

BAILLIÈRE, TINDALL, AND COX, 8, Henrietta-street, Covent-garden, W.C.

Burden Camels: their Management and Diseases. By H. M. Lennox-Conyngham, Capt. A.V.D. Price 1s. 6d. net.

BALDWIN AND CO., Georgetown, Demerara.

The British Guiana Medical Annual. Edited by A. T. Ozzard, M.R.C.S. Eng., L.S.A., Resident Surgeon, Public Hospital, Suddie, and C. P. Kennard, M.D. Edin., M.R.C.S. Eng., Government Medical Officer. Thirteenth year of issue. Price 5s.

COLLINGRIDGE, W. H. AND L., 148 and 149, Aldersgate-street, E.C.

Vegetables and their Cultivation. By T. W. Sanders, F.L.S., F.R.H.S., Editor of "Amateur Gardening," &c. Price 5s. net.

D. VAN NOSTRAND COMPANY, 23, Murray-street, and 27, Warren-street, New York.

A Text-book of Quantitative Chemical Analysis by Gravimetric, Electrolytic, Volumetric and Gasometric Methods. With 72 Laboratory Exercises giving the Analysis of Pure Salts, Alloys, Minerals, and Technical Products. By J. C. Olsen, A.M., Ph.D., Professor of Analytical Chemistry in the Polytechnic Institute of Brooklyn, formerly Fellow of the Johns Hopkins University. Price $4.00 net.

FALCONER, JOHN, 53, Upper Sackville-street, Dublin. (BAILLIÈRE, TINDALL, AND COX, London.)

Transactions of the Royal Academy of Medicine in Ireland. Vol. XXII. Edited by John B. Story, M.B., F.R.C.S., General Secretary; Surgeon to Royal Victoria Eye and Ear Hospital, Dublin. Price not stated.

GREEN, WILLIAM, AND SONS, Edinburgh and London.

A Guide to Anæsthetics. For the Student and General Practitioner. By Thomas D. Luke, M.B., F.R.C.S. Ed., Instructor in Anæsthetics (University Surgical Classes), Royal Infirmary. Second edition. Price 5s. net.

GRIFFIN, CHARLES, AND COMPANY, LIMITED, Exeter-street, Strand, W.C.

Text-book of Human Physiology, including Histology and Microscopical Anatomy, with Especial Reference to the Practice of Medicine. By Dr. L. Landois, Professor of Physiology and Director of the Physiological Institute in the University of Greifswald. Tenth revised and enlarged edition. Edited by Albert P. Brubaker, M.D., Professor of Physiology and Hygiene in the Jefferson Medical College. Translated by Augustus A. Eshner, M.D., Professor of Clinical Medicine in the Philadelphia Polyclinic. Price not stated.

LIVINGSTONE, E. AND S., Edinburgh.

Questions Set at the Various Medical Exams. for Several Years. Price 2s.; post free, 2s. 3d.

MACMILLAN AND CO., LIMITED, London.

Archives of Neurology from the Pathological Laboratory of the London County Asylums, Claybury, Essex. Edited by Frederick Walker Mott, F.R.S., M.D., F.R.C.P., Director of the Laboratory and Pathologist to the London County Asylums; Physician in Charge of Out-patients, Charing Cross Hospital. Vol. II. Published for the Asylums Committee of the London County Council. Price 17s. 6d. net.

MURRAY, JOHN, 50A, Albemarle-street, W.

Bacteriology and the Public Health. By George Newman, M.D., F.R.S.E., D.P.H., formerly Demonstrator of Bacteriology in King's College, London, &c., Medical Officer of Health of the Metropolitan Borough of Finsbury. Third edition. Price 21s. net.

OFFICE OF THE SUPERINTENDENT OF GOVERNMENT PRINTING, Calcutta.

Scientific Memoirs by Officers of the Medical and Sanitary Departments of the Government of India. On the Morphology, Teratology, and Diclinism of the Flowers of Cannabis. By Major D. Prain, M.B., I.M.S. (Indian Medical Service). New series. No. 12. Price Annas 0-14-0, or 1s. 4d.

REBMAN, LIMITED, 129, Shaftesbury-avenue, W.C.

Progressive Medicine. Edited by Hobart Amory Hare, M.D., assisted by H. R. M. Landis, M.D. Vol. III. September, 1904. Price 12s. net, or £2 annual subscription.

ST. ANDREWS AMBULANCE ASSOCIATION, 176, West Regent-street, Glasgow.

St. Andrews Ambulance Association: Home Nursing and Hygiene. By J. Wallace Anderson, M.D., F.F.P.S.G., Convener of the Medical Committee, St. Andrews Ambulance Association and Hon. Associate of the Order of St. John of Jerusalem in England, and George H. Edington, M.D., F.F.P.S.G., Surgeon to the Outdoor Department of the Western Infirmary and of the Royal Hospital for Sick Children, Glasgow. Price 1s. net; post free, 1s. 2d.

SWAN SONNENSCHEIN AND CO., LIMITED, 25, High-street, Bloomsbury, W.C.

Vegetarian and Simple Diet. By Col. A. R. Kenney-Herbert (Wyvern). Price 3s. 6d. net.

UNIONE TIPOGRAFICO-EDITRICE, 28, Corso Raffaello, Torino.

Eziologia, Diagnosi e Terapia del Cretinismo, con Particolare Riguardo alle altre Malattie della Glandola Tiroide, Gozzo e Mixedema. Dr. Pietro Giorgio Enrico Bayon, Assistente alla Clinica Psichiatrica di Würzburg. Price L.4.

WRIGHT, JOHN, AND CO., Bristol. (SIMPKIN, MARSHALL, HAMILTON, KENT, AND CO., LIMITED, London.)

An Introduction to Dermatology. By Norman Walker, M.D., F.R.C.P. Edin., Assistant Physician for Diseases of the Skin to the Royal Infirmary, Edinburgh. Third edition. Revised and enlarged. Price 9s. 6d.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, such information for gratuitous publication.

ARMOUR, DONALD, M.B., M.R.C.P. Lond., F.R.C.S. Eng., has been appointed Surgeon to the Belgrave Hospital for Children.

BAIRD, C. T. U., L.R.C.P., L.R.C.S. Edin., has been appointed Certifying Surgeon under the Factory Act for the Wallsend District of the county of Northumberland.

BARNES, FRANK, M.B., B.S. Lond., F.R.C.S. Eng., has been appointed Honorary Surgeon to the Royal Orthopædic and Spinal Hospital, Birmingham.

DAVIS, WILLIAM HENRY, M.B., B.Ch. R.U.I., has been appointed House Surgeon to the Royal Victoria Hospital, Belfast.

FALCONAR, HENRY BARCLAY, L.S.A. Lond., has been re-appointed District Medical Officer for the Shirehampton, Henbury, and Avonmouth Districts by the Bristol Board of Guardians.

FORTUNE, JOHN, M.B., C.M. Edin., has been appointed Third Assistant Medical Officer to the Devon County Asylum.

GIFFORD, GEORGE T., M.D. Durh., M.R.C.S. Eng., has been appointed Honorary Assistant Surgeon to the Blackburn and East Lancashire Infirmary.

HARDWICK, ARTHUR, M.D. Durh., D.P.H. Eng., L.S.A., has been re-appointed Medical Officer of Health of Newquay, Cornwall.

HARVEY, ALFRED, M.B. Lond., M.R.C.S., L.S.A., has been re-appointed Medical Officer for the Westbury Park, Horfield, and Westbury-on-Trym Districts by the Bristol Board of Guardians.

INGLIS, D. W., M.D. Glasg., has been appointed Certifying Surgeon under the Factory Act for the Jarrow District of the county of Durham.

LATHAM, W., L.R.C.P.I., M.R.C.S. Eng., has been appointed Certifying Surgeon under the Factory Act for the London and North-Western Railway Company's Works at Earlestown, in the Newton-le-Willows District of the county of Lancaster.

ORMEROD, H. LAWRENCE, M.D., B.Ch. R.U.I., M.R.C.S., L.R.C.P., has been appointed Public Vaccinator for the newly added districts by the Bristol Board of Guardians.

ORTON, L. E., M.R.C.S., L.R.C.P. Lond., has been appointed Certifying Surgeon under the Factory Act for the Bedworth District of the county of Warwick.

REID, ALFRED, M.B., D.P.H. Durh., M.R.C.S., L.R.C.P. Lond., has been appointed Second Assistant Medical Officer to the Devon County Asylum.

RUSSELL, JAMES, M.B., Ch.B. Glasg., has been appointed Resident Physician at the Combination Fever Hospital, Govan.

SHUCKBURGH, STEWART JAMES, L.R.C.P.I., L.R.C.S.I., has been appointed Medical Officer and Public Vaccinator for the Madley District of the Dore Union.

SUTTON, H. M., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Superintendent of the Mildmay Memorial Hospital, Mildmay Park, London, N.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

ARMY MEDICAL SERVICE, 68, Victoria-street, London, S.W.—Examination of Candidates for not less than 25 Commissions in the Royal Army Medical Corps.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham-road, S.W.—Senior and Junior Resident Medical Officers, both for six months. Honorarium at rate of £20 and £10 per year respectively, with board and lodging.

BERMONDSEY INFIRMARY AND CASUAL WARDS, Lower-road, Rotherhithe.—First Assistant Medical Officer. Salary £170 per annum, with rations, washing, apartments, and attendance.

BIRMINGHAM, THE QUEEN'S HOSPITAL.—House Physician. Salary £50, with board, lodging, and washing.
BIRMINGHAM, UNIVERSITY OF (FACULTY OF MEDICINE).—Professor of Anatomy. Stipend £800 per annum.
BRACEBRIDGE ASYLUM, near Lincoln.—Junior Assistant Medical Officer, unmarried. Salary £125 per annum, with apartments, board, attendance, &c.
BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—Assistant House Surgeon for six months. Salary at rate of £50 per annum, with board, rooms, and attendance.
BURTON-ON-TRENT INFIRMARY.—House Surgeon. Salary £120 per annum, with rooms, board, coal, and light free.
CARNARVONSHIRE AND ANGLESEY INFIRMARY, Bangor.—House Surgeon. Salary £80 per annum, rising to £100, with board, washing, and lodging.
EAST LONDON HOSPITAL FOR CHILDREN AND DISPENSARY FOR WOMEN, Shadwell, E.—House Physician for six months. Honorarium £25, with board, residence, &c.
GLOUCESTER GENERAL INFIRMARY AND GLOUCESTERSHIRE EYE INSTITUTION.—House Surgeoncy. Salary £100 per annum, with board, residence, and washing.
GRIMSBY AND DISTRICT HOSPITAL.—Resident House Surgeon. Salary £80 per annum, with lodging and washing.
HOLLOWAY SANATORIUM HOSPITAL FOR THE INSANE, Virginia Water, Surrey.—Junior Assistant Medical Officer (female). Salary £150, rising to £200, with board, lodging, washing, attendance, &c.
INDIAN MEDICAL SERVICE, India Office.—Examination for not less than 12 Commissions in His Majesty's Indian Medical Service.
LEEDS UNION INDOOR INSTITUTIONS, Beckett-street, Leeds.—Assistant Medical Officer, unmarried. Salary £120 per annum, with board, washing, apartments, and attendance.
LEICESTER INFIRMARY.—House Surgeon. Salary £100 per annum, with board, apartments, and washing.
MACCLESFIELD GENERAL INFIRMARY.—Senior House Surgeon. Salary £100, with board and residence.
MANCHESTER, CORPORATION OF.—Medical Officer under the Midwives Act. Salary £250 per annum.
MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence.
MICKLEOVER, DERBY COUNTY ASYLUM.—Junior Assistant Medical Officer. Salary £120, rising to £150 per annum, with apartments, board, washing, and attendance.
NEW HOSPITAL FOR WOMEN, Euston-road, N.W.—House Surgeon and House Physician; also Resident Medical Officer for the Maternity Department (females), for six months.
NORTH-EASTERN HOSPITAL FOR CHILDREN, Hackney-road, E.—House Surgeon. Also House Physician, both for six months. Salary at rate of £60 per annum, with board, residence, and laundry in each case.
NORTH-WEST LONDON HOSPITAL, Kentish Town-road.—Resident Medical Officer. Also Assistant Resident Medical Officer, both for six months. Salary at rate of £50 per annum, with board, residence, and washing in each case.
READING, ROYAL BERKSHIRE HOSPITAL.—House Physician for four months. Salary at rate of £80 per annum, with board, lodging, and washing.
ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Member of the Court of Examiners.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, W.C.—Clinical Assistants for six months.
ST. GEORGE'S HOSPITAL, S.W.—Assistant Surgeon.
SUSSEX COUNTY HOSPITAL.—House Physician, unmarried. Salary £70 per annum, with board and residence.
TIVERTON, DEVONSHIRE, INFIRMARY AND DISPENSARY.—House Surgeon and Dispenser. Salary £80 and all found.
WAKEFIELD, WEST RIDING ASYLUM.—Assistant Medical Officer. Salary £140, rising to £160, with apartments, board, washing, and attendance.
WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician for six months. Board, lodging, and laundry allowance provided.
WOLVERHAMPTON AND MIDLAND COUNTIES EYE INFIRMARY.—House Surgeon. Terms £70 per annum, with rooms, board, and washing.

Births, Marriages, and Deaths.

BIRTHS.

JOSCELYNE.—On Nov. 7th, at Old Bank-house, Redditch, the wife of H. Percy Joscelyne, L.D.S. R.C.S., of a daughter.
STRATON.—On Oct. 16th, at Landour, India, the wife of Captain C. H. Straton, Royal Army Medical Corps, of a son.

MARRIAGES.

DALE—HALLETT.—On Nov. 5th, at Archway-road Wesleyan Chapel, Highgate, Henry Hallett Dale, M.A., B.Ch. Cantab., to Ellen Harriet (Nellie), daughter of F. W. Hallett, of Hornsey-rise, and granddaughter of the late John Broad.
MACNAMARA—JERMAIN.—On Nov. 5th, at Nazira, Assam, India, by the Rev. E. M. Hadow, John Radley Macnamara, F.R.C.S.I., Medical Officer, Assam Co., son of the late John Sheridan Macnamara, of Dublin, and Mrs. Macnamara, Malpas, Cheshire, to Natalie Maude, second daughter of Captain Jermain, R.N. (retired), of Crondall, Hants.

DEATHS.

ALLINGHÁM.—On Nov. 4th, at Marseilles, Herbert William Allingham, F.R.C.S., of Grosvenor-street, Grosvenor-square, W., aged 42 years.
CHALDECOTT.—At Parkside, Dorking, on the 5th inst., Charles William Chaldecott, M.R.C.S., L.S.A., aged 76.
CHANDLER.—On Nov. 3rd, at Cornwall-road, Westbourne-park, Bentham Casaubon Chandler, M.D., aged 92 years.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

A NEW DANGER IN THE DUSTBIN.

WITH reference to the paragraph in THE LANCET of Oct. 8th, p. 1068, under the above heading, when we commented upon explosives being put into dustbins, we are glad to see that the *London Gazette* of Nov. 4th contains an order of the Secretary of State for Home Affairs concerning the matter. It is now enacted that explosives shall not be deposited in any receptacle of refuse or handed to anyone employed in the removal of refuse without due notice, or conveyed in any carriage or boat used for the removal of refuse, under a penalty not exceeding £10 for the first offence or £20 for subsequent offences. The order was timed nicely to coincide with Guy Fawkes' day. While we are on the subject of dustbins we may say that in our opinion there is room for improvement in the types of dustbins in general use. We have observed those of metal which are cylindrical, pail-shaped, or square, and hampers with and without metal linings. In addition, we have seen dustbin substitutes, such as coal-scuttles, pails, metal linings of tea and other chests, baths, barrels, and crates, and wood and cardboard boxes. Of all the types the cylindrical metal dustbin looks the most wobegone. Its mouth is generally oval with lacerated lips and its sides are dented by brute force. We have also noticed the left or "near" side of some dust-carts and observed that a considerable portion of the woodwork presents a macerated and pulpy appearance, as if some gigantic rodent had been gnawing it. We cannot help thinking that there is a direct connexion between this fibrous appearance of the wood and the dents in many dustbins and it seems that either the dustbins or the sides of the cart need to be more elastic. It is impossible to fit a circular lid on to an oval-mouthed dustbin and that is no doubt partly the reason why lids are seldom seen on them after they have been taken into use for a short while. Again, if the dustbins are stood on the kerbstone with the lids on, the dustbin-pickers soon take them off. They are apparently allowed free-play. We recently saw two enterprising youths loading up a perambulator from the dustbins in the street. It would appear that the method of hauling the dustbins up to the top of the cart by manual labour is partly responsible for the dents in the dustbins as the man after lifting a score or so o heavy dustbins is naturally anxious not to hold one up longer than he is obliged.

THE PROSTITUTION OF THE POST OFFICE.

A RIGHTLY indignant correspondent has written to us inclosing one of "Dr." Bell's dirty little pamphlets on which we have commented over and over again. The envelope containing it was, he says, opened by his wife in his absence, and naturally, as Bell puts nothing on the outside of his envelope to indicate the nature of the contents, any medical man's wife or daughters might be brought face to face with Bell's disgusting assertions. In THE LANCET of July 23rd, p. 239, we referred to the conviction of a man named H. Berdot, who was prosecuted by the police for sending dirty circulars to a gentleman named Williams. We then asked the police authorities to proceed against "Dr." Bell in the same manner, and we ask them again. They are perfectly aware of his practices and the nuisance has been going on for years.

VICTIMS OF ALCOHOL IN RUSSIA.

DR. S. S. STUPIN of Moscow recently delivered a lecture in St. Petersburg giving the results of his investigations into the havoc made by alcohol in Russia. He said the consumption of alcohol per head of the population in St. Petersburg and Moscow was but very little under that in other great European towns. Deaths from alcoholism were most numerous in St. Petersburg, being twice as many as in Moscow. He found also that the mortality from alcoholism generally corresponded with the quantity of distilled liquors consumed per head and its fatal effects were most evident between the ages of 40 and 60 years, the mortality being, moreover, three to five times less amongst women than amongst men. He gave no official statistics in support of his statements but pleaded that such should be carefully recorded in the future. Many professors present contested his general conclusions because of the want of specific "alcoholism" statistics in the official mortality returns.

A HISTORICAL EXHIBITION OF MEDICINE AND THE ALLIED SCIENCES.

IN reference to the Historical Exhibition of rare and curious objects relating to medicine, chemistry, pharmacy, and the allied sciences, to be held in London, organised by, and under the direction of, Mr. Henry S. Wellcome, we are now informed that the response to the announcement of the exhibition has been beyond expectation and that this, with the many valuable suggestions received, has prompted the organisers considerably to widen its scope. The extent of the work thereby involved renders it impossible to fix at present a definite date for the exhibition; announcement will be duly made later.

THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

WE have received a circular letter signed by the Bishop of Stepney, the Rector of Bethnal Green, the Rector of Hackney, the Vicar of Shoreditch, the Missionary Rector in charge of the Roman Catholic Church of St. John the Baptist, a number of well-known Nonconformist ministers, and the Chief Rabbi, concerning the announcement recently made that the North-Eastern Hospital for Children, Hackney-road, Bethnal Green, must, unless more funds are obtained, be partly closed at the end of December. The signatories of the letter end their appeal as follows:—

> "Such a loss of hospital accommodation for children in a teeming district where numbers of families occupy only one room, at any time deplorable, would at this period of unusual distress be little short of a calamity to the struggling poor of our part of London, and we, the undersigned, brought into close daily contact with the crying needs of the suffering little ones, earnestly appeal to your readers to give freely towards the good object of enabling this excellent hospital to tide over its difficulties without restricting its beneficent work."

The closing of the hospital would undoubtedly be a great calamity to the suffering poor of the neighbourhood and it is to be hoped that, despite the depression in trade and the general scarcity of money, the purses of the charitable will be opened in order that even a small sum may be sent.

CARBIDE OF CALCIUM REGULATIONS.

SOME inconvenience has arisen in regard to the storage of carbide of calcium owing to the limitations imposed by the Home Office as to the quantity to be contained in one vessel. The Secretary of State is now of opinion that the limitation as to quantity may be removed inasmuch as it is thought that there can be no increase of danger in the use of larger vessels either in conveyance or storage, provided that the vessel is strong in proportion to the weight of its contents. The Secretary of State has also notified the fact that whereas it is desirable to insert some condition in the licences as to the carbide being rendered inaccessible to unauthorised persons it is seldom necessary to require that each containing vessel should be fitted with a lock. These regulations are of interest to those who, as in country places, employ acetylene for domestic lighting purposes or in the lamp of the motor-car.

PARALYSIS AND PRETENCE.

ON Nov. 8th Cecil Brown Smith was sentenced at the Guildhall police-court to three months' hard labour for having placed himself in Bishopsgate-street for the purpose of collecting alms, and, further, for having gathered charitable contributions by false pretences. Evidence was given during the trial that Smith had made as much as £6 a week by feigning to be paralysed. When not employed in pursuing his vocation he lived in a good house at Upper Norwood, where he was well known and welcomed to smoking concerts as a good pianist. When engaged, however, in the pursuit of his calling he appeared to be a decrepit, miserable, old man, apparently paralysed down one side. Mr. Frederick Gordon Brown, one of the City police surgeons, gave evidence that he had had an interview with the accused and that he found his grip was perfectly good. He could walk without any dragging in his gait and could also walk backwards with his eyes shut. His reflexes were good and his pupils were normal. Smith himself pleaded guilty and said that he must admit that he had assumed a good deal. It would be interesting to know whether Smith had invented his method of making a living out of his own head or whether he had read two stories in which a similar character to himself figures, the one being Thackeray's "Miss Shum's Husband" and the other Sir Conan Doyle's "The Man with a Twisted Lip." Mr. Frederick Altamont, however, did not pretend to be paralysed, but merely posed as a decrepit crossing sweeper. Sir Conan Doyle's hero passed himself off, if we remember rightly, as a hunchback. If it be true that Smith made £6 a week it is to be feared that he will have many imitators, for nothing, it seems, will prevent the charitably disposed from giving indiscriminate alms to anybody who may ask them for it.

THE EMPRESS PATENT TEA INFUSER.

THIS is a simple arrangement for preparing an infusion of tea in the cup. It consists principally of a white enamelled bowl which fits into the tea-cup and projects into it for about two inches. The bowl is provided with an enamelled plug which serves to retain the tea-leaves but allows the hot water to percolate through them. A lid made of the same enamelled material fits loosely on the top of the basin so as to prevent the escape of aroma and to keep the infusion hot. When sufficient time to make the infusion of the desired strength has elapsed the whole arrangement is lifted out of the cup. The action is thus first percolation (by pouring boiling water into the bowl) and then infusion. The apparatus is clean and satisfactory and by its use an excellent cup of tea, free from excess of astringent principles yet redolent with the aroma of tea, may be prepared. The specimen was submitted to us by Messrs. Ellen and Co. of 16, Billiter-buildings, Billiter-street, London, E.C.

W. A. H. W. (Leeds).—If our correspondent could give us a little more definite information we might be able to give him the reference to the article in question. In the meantime it is possible that he is referring to an article by Dr. W. Hunter upon anæmia produced by oral sepsis which appeared in THE LANCET of Jan. 27th, 1900, p. 221.

C. A. T.—Our correspondent has omitted to sign his name. We published the list as it was supplied to us by our local correspondent. If the additional names are sent to us, properly authenticated, we shall be happy to publish them.

Bayaham.—Osler's Principles and Practice of Medicine, Kimpton, Furnival-street, W.C., 18*s.* net.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (14th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Royal Free (2 P.M.), Guy's (1.30 P.M.).

TUESDAY (15th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), Soho-square (2 P.M.), Chelsea (2 P.M.), Central London Throat and Ear (2 P.M.).

WEDNESDAY (16th).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

THURSDAY (17th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (9.30 A.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), Guy's (1.30 P.M.).

FRIDAY (18th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing Cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (9.30 A.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.), City Orthopædic (2.30 P.M.), Soho-square (2 P.M.), Central London Throat and Ear (2 P.M.).

SATURDAY (19th).—Royal Free (9 A.M.), London (2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing Cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), Throat, Golden-square (9.30 A.M.), Guy's (1.30 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (14th).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—Clinical Meeting. Cases:—Mr. M. Little: Displacement of the Lower Epiphysis of the Femur Backwards in a Youth.—Mr. F. C. Wallis: Two Cases of Chronic Osteitis in Girls.—Dr. F. P. Weber: (1) Tremor of Left Lower Extremity of Ten Years' Duration; (2) Early Acromegaly; (3) A Case of Hanot's Disease.—Dr. F. J. Poynton: Amaurotic Family Idiocy.—Dr. H. M. Fletcher: Multiple Syphilitic Disease of Joints in a Child.—Dr. A. Eddowes: (1) Case of Lichen with Fibrous Thickening of Ear, &c.; (2) Skin Gout.

TUESDAY (15th).—PATHOLOGICAL SOCIETY OF LONDON (London Hospital Medical College).—5 P.M. Laboratory Meeting. Demonstrations:—Dr. L. Hill: Some Experiments on the Effects of High Atmospheric Pressure.—Dr. Sargent and Dr. Dudgeon: Two Cases of Emphysematous Gangrene due to Bacillus Aerogenes Capsulatus.—Dr. de Korte: A Preliminary Note on the Parasites of Variola and Vaccinia.—Dr. F. W. Twort: Tumours simulating Epithelioma following on, and apparently due to, Inoculation of Blastomyces.—Dr. J. Catto: A New Species of Schistosomum. Dr. W. Bulloch and Dr. Twort: Glanders in Man with a Note on the Virulence of Bacillus Mallei from Human Sources. Dr. W. Bulloch and Mr. E. E. Atkin: Experiments to determine the Nature of Opsonic Action.

CHELSEA CLINICAL SOCIETY (Chelsea Dispensary, Manor-street, King's-road, S.W.).—8.30 P.M. Meeting.

WEDNESDAY (16th).—ROYAL MICROSCOPICAL SOCIETY (20, Hanover-square, W.).—8 P.M. Paper:—Mr. A. E. Conrady: Theories of Microscopic Vision. (A Vindication of the Abbé Theory.)

ROYAL METEOROLOGICAL SOCIETY (Institution of Civil Engineers, Great George-street, Westminster, S.W.).—7.30 P.M. Papers:—Lieutenant C. Royds, R.N.: Meteorological Observing in the Antarctic.—Mr. F. J. Brodie: Decrease of Fog in London during Recent Years.—Mr. R. L. Holmes: Hurricane in Fiji, Jan. 21st–22nd, 1904.

FRIDAY (18th).—SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN (11, Chandos-street, W.).—5.30 P.M. Cases will be shown by Dr. J. Taylor, Mr. J. H. Evans, Mr. D. Drew, Dr. J. P. Parkinson, Mr. S. Stephenson, and Dr. H. Campbell Specimens will be shown by Dr. B. Rogers, Dr. J. M. Fortescue-Brickdale, Dr. G. Carpenter, Dr. S. Curl, and Mr. D. Drew.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (14th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. J. F. Payne: Clinique. (Skin.) 5.15 P.M. Prof. W. Cheyne: The Diagnosis of Tumours of the Breast.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Saunders: Rheumatism in Children.

TUESDAY (15th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. P. Luff: Clinique. (Medical.) 5.15 P.M.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Shuter: Anæsthetics.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Tooth: Muscular Atrophy.

GLASGOW OPHTHALMIC INSTITUTION (126, West Regent-street).—8 P.M. Demonstration of Ophthalmoscopic Cases, Stereoscopic and other Photographs, Pathological Specimens, and Microscopic Slides. The Treatment of Pyogenic Infection of the Eyeball. (Post-Graduate Course.)

WEDNESDAY (16th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. L. Cheatle: Clinique. (Surgical.) 5.15 P.M. Mr. F. C. Wallis: Injuries to, and Diseases of, Joints.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Dr. Beddard: Practical Medicine.

NORTH-EAST LONDON POST-GRADUATE COLLEGE (North-Eastern Fever Hospital, St. Ann's-road, N.).—2.30 P.M. Dr. H. Cuff: Demonstration on Fevers.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Schorstein: The Relationship of Cerebral Abscess to Pulmonary Disease.

CENTRAL LONDON THROAT AND EAR HOSPITAL (Gray's Inn-road, W.C.).—5 P.M. Demonstration:—Mr. S. Low: Oro- and Laryngo-Pharynx.

THURSDAY (17th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.) 5.15 P.M. Dr. C. T. Williams: The Principles of Treatment of Pulmonary Tuberculosis.

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Keetley: Injuries of Upper Extremity.

SAMARITAN FREE HOSPITAL FOR WOMEN (Marylebone-road, N.W.).—3 P.M. Mr. Malcolm: The Management of Cases of Abdominal Surgery.

MOUNT VERNON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (7, Fitzroy-square, W.).—5 P.M. Lecture: Dr. F. P. Weber: Climates and Health Resorts in the Treatment of Pulmonary Tuberculosis. (Post-Graduate Course.)

CHARING CROSS HOSPITAL.—4 P.M. Dr. Willcocks: Demonstration of Medical Cases. (Post-Graduate Course.)

NORTH-EAST LONDON POST-GRADUATE COLLEGE (Tottenham Hospital, N.).—4.30 P.M. Lecture:—Dr. Chappel: Clinical Medicine.

ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM (City-road, E.C.).—11 A.M. Mr. S. Edwards: Lecture-Demonstration on Diseases of the Rectum.

FRIDAY (18th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. E. Clarke: Clinique. (Eye.)

POST-GRADUATE COLLEGE (West London Hospital, Hammersmith-road, W.).—5 P.M. Mr. Paget: Surgical Cases.

NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC (Queen-square, Bloomsbury, W.C.).—3.30 P.M. Dr. Tooth: Muscular Atrophy.

SATURDAY (19th).—ST. MARK'S HOSPITAL FOR FISTULA AND OTHER DISEASES OF THE RECTUM (City-road, E.C.).—2.30 P.M. Mr. P. Furnivall: Clinical Demonstration in the Out-Patient Department.

EDITORIAL NOTICES.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers—not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Manager."*

We cannot undertake to return MSS. not used.

MANAGER'S NOTICES.

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The Manager will be pleased to forward copies direct from the Offices to places abroad at the above rates, whatever be the weight of any of the copies so supplied. Address—THE MANAGER, THE LANCET OFFICES, 423, STRAND, LONDON, ENGLAND.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Nov. 10th, 1904.

Date.		Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Nov.	4	30·26	S.W.	...	71	56	47	48	49	Foggy
,,	5	30·07	S.W.	...	70	57	49	49	51	Overcast
,,	6	30·00	S.W.	...	62	56	46	47	49	Cloudy
,,	7	29·74	S.	0·31	57	52	49	50	51	Raining
,,	8	29·85	W.	0·50	73	56	42	41	44	Fine
,,	9	29·57	W.	0·16	60	60	42	55	56	Squally
,,	10	29·97	N.W.	0·06	55	51	48	46	49	Cloudy

During the week marked copies of the following newspapers have been received :—*East Anglian Daily Times, Walsall Advertiser, Surrey Advertiser, Reading Mercury, Mining Journal, Local Government Chronicle, Daily News, Daily Mail, Daily Chronicle, Standard, Yorkshire Post, Literary Digest, Aberdeen Weekly Free Press, Carmarthen Journal, Westminster Gazette, Hertfordshire Mercury, Windsor and Eton Express, South Wales Daily News, &c.*

Communications, Letters, &c., have been received from—

A.—Mr. J. Astier, Asnières; Dr. H. E. Armstrong, Newcastle-on-Tyne; Mr. T. A. Harvie Anderson, Glasgow; "All Nations" Missionary Union, Lond.; Dr. J. Adam, West Malling.

B.—Dr. David Blair, Lancaster; Birmingham, &c., Skin Hospital, Secretary of; Burton-on-Trent Infirmary, Secretary of; Messrs. Barton and Guestier, Bordeaux; Bristol Royal Hospital for Sick Children and Women, Secretary of; Benger's Food, Ltd., Manchester, Secretary of; Dr. S. Henning Beltrage, Lond.

C.—Sir W. J. Collins, Lond.; Messrs. T. Cook and Son, Lond.; Messrs. Cosenza and Co., Lond.; Messrs. Callard and Co., Lond.; Messrs. Condy and Mitchell, Lond.; Dr. T. S. Carrington, New York City; Messrs. A. Constable and Co., Lond.; Cortland Wagon Co., Lond.; Messrs. E. Cook and Co., Lond.; Mr. F. W. Clarke, Chorlton-cum-Hardy.

D.—Sir Dyce Duckworth, Lond.; Mr. W. J. Dickinson, Lond.; Major C. Donovan, I.M.S., Nungumbakam.

F.—Mr. A. FitzGerald, Waterford; Mr. A. E. Fuller, Bournemouth; Dr. F. J. Fielder, Lond.

G.—Mr. H. O. Grenfell, Eversley; Grimsby Hospital, Secretary of; Messrs. Giles, Schacht, and Co., Clifton; Gloucester General Infirmary, Secretary of; Messrs. W. Green and Sons, Edinburgh; Dr. Lachlan Grant, Ballachulish; Galen Manufacturing Co., Lond.; Messrs. Geddes and Co., Edinburgh.

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J.—Dr. Robert Jones, Claybury; Miss Theodora Johnson, Clifton; Jeyes' Sanitary Compounds Co., Lond.; J. W. L.

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